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VOLUME LII OCTOBER, 1956 NUMBER 10

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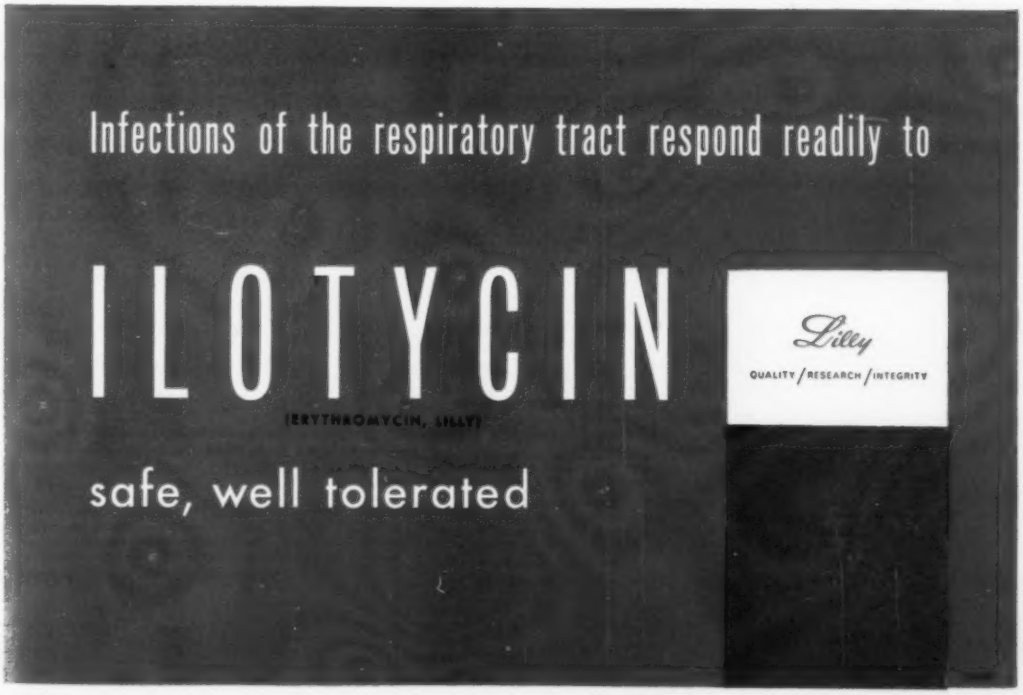

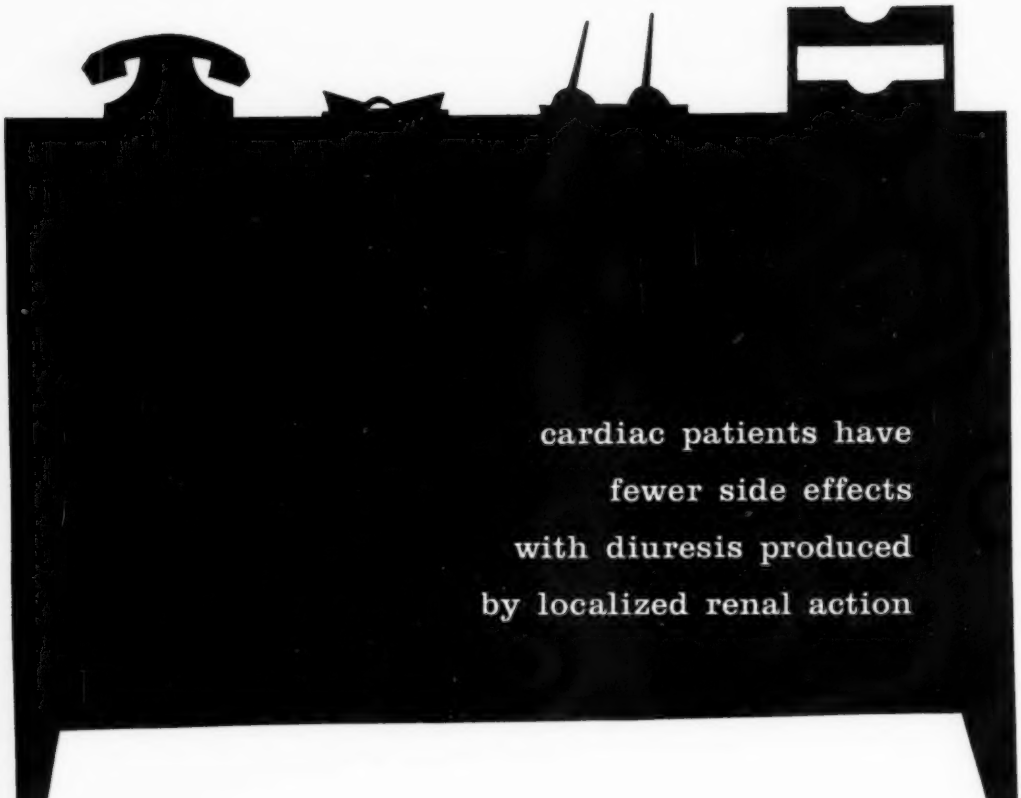

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THE JOURNAL OF THE SOUTH CAROLINA MEDICAL ASSOCIATION—Published monthly by The South Carolina Medical Association, 105 West Cheves Street, Florence, South Carolina. Subscription Price: $3.00 a Year. Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under Act of March 3, 1879. Accepted for mailing at special rate of postage provided for in Sec. 1103 Act of October 3, 1917, authorized Aug. 2, 1918.

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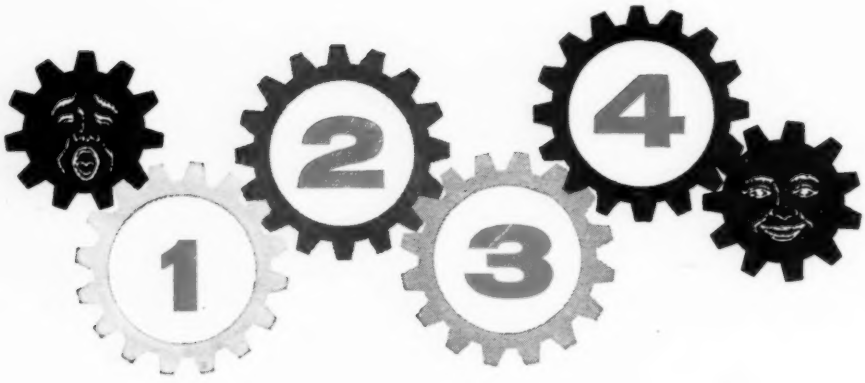
and calm the patient



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The Journal

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VOLUME LII October, 1956 NUMBER 10

THE PROPHYLAXIS OF EMOTIONAL ILLNESS

JAMES T. PROCTOR, M. D.

Chapel Hill, North Carolina

I would like to tell you an anecdote which came to my attention through a friend: "In spite of the earnest entreaties of several professors at the University of North Carolina, Chapel Hill's aldermen stormily refused to repeal a town ordinance barring jackasses from the public streets. One professor went so far as to beg the aldermen to remember that they were once young themselves." I find this amusing as do many of you, but in it as there is in so much humor, there is some real truth. We all tend to look upon our children and adolescents as fools or asses, instead of taking the more realistic view that they are actually developing individuals, struggling with problems that are difficult for them. They need understanding and support, not condemnation or depreciation.

In a more serious vein, the topic I would like to discuss with you is that of the prophylaxis of mental illness, or the prevention of mental illness, which stated another way is mental hygiene, either as applied to the individual or as applied to various institutions to prevent emotional illness or pathology. The magnitude of the problem is tremendous. It is estimated that 52% of the hospital beds in this country are occupied by people suffering from an emotional illness, which hospital population is cared for by something less than 5% of the doctors. At any given time there are over 600,000 people hospitalized for emotional illness and it has been estimated that roughly one person in ten will spend some time during the course of his life hospitalized for an emotional disturbance. In some of the states in the Northeast which have the most adequate hospital facilities numerically, it is estimated that 1% of the population of those states is hospitalized sometime during the course of any particular year. All of this means, of course, that many patients will receive less than optimum care, no matter how hard we try to supply that care and no matter how well motivated we are; the supply of service simply cannot meet the demand.

The attack on mental illness is a twofold one, involving prevention of potential cases and treatment of cases already in existence. I would like to discuss with you something of both aspects. Our orientation will be particularly from the vantage of child psychiatry, which is my specialty, but also is an area in which we feel the words prevention or prophylaxis have particular meaning. My own work is primarily in the area of treatment, but often in child psychiatry that blends into prophylaxis and becomes indistinguishable from preventative psychiatry. The various matters we will discuss apply equally to emotionally well and disturbed children.

Speaking of treatment, I would like to tell you something of our facilities for children at Memorial Hospital as a typical example of child psychiatry in a teaching hospital, which in ways is also characteristic of many child

Department of Psychiatry, University of North Carolina School of Medicine.

Paper presented at the Institute on Neurology and Psychiatry, Medical College of South Carolina, Charleston—May 23, 1956.

guidance and mental hygiene clinics.

At Memorial Hospital the child psychiatric service is an integral part of the total hospital and its elaborate facilities, but more specifically is a subdivision of the Psychiatric Outpatient Clinic. At this time, our work in child psychiatry is primarily outpatient in nature. However, in selected cases we hospitalize children for extensive diagnostic evaluations or short-term intensive therapy to prepare them for outpatient treatment, whereas they might not be able to tolerate outpatient treatment without intensive treatment under controlled conditions first. Our services in this area are limited primarily by the availability of time and personnel, but we do have four to five children at a time in the hospital under such a regime. The services we render are essentially threefold: diagnosis, treatment and teaching. In these functions we utilize the classic team approach, involving the psychologist, the psychiatric social worker and the psychiatrist. The psychiatric social worker in the team is particularly skilled in problems of child guidance and dealing with parents. She works initially with the parent or parents to obtain history and thus assists with the diagnosis. Later, she works therapeutically with the parents to help them understand the problems involved and to modify constructively their attitudes and behavior toward the child. The psychologist participates by using the microscope of psychological evaluation, the psychological test. The psychiatrist then brings his skills to bear upon the particular problems of the child. After an initial period of observation and data collection, these three members pool their information, formulate the diagnosis and plan of treatment. In an adequate continuing treatment program, frequent consultation between the team members is necessary to maintain mutual understanding and to achieve satisfactory treatment. Also, we have incorporated in our team the sociologist and anthropologist, who assist us to understand the social and economic factors involved in a given case or situation, especially those situations which deviate from the cultural patterns with which we are familiar and which are more or less out of our realm of adequate knowledge. The sociologist and anthropologist are also of inestimable help in planning and carrying through various research projects, which is our department's fourth important function. Research in a narrow sense is not a medical service, but in a larger sense, research is the highest service function as in it lies the hope for greater success in mental hygiene. Although collateral to and secondary to the functions previously mentioned, we are able to offer consultation to other interested agencies such as various Departments of Public Welfare, the courts, the schools, etc. Today I will not go into the exact functioning of our clinic, but would like to point out that our goal when we invest ourselves in a case is the resolution of emotional illness in individuals who come to our attention. When a child is taken into therapy we customarily see the mother concurrently and frequently likewise involve the father. As an aside, I am reminded of a recent cartoon of two parents leaving the school principal's office. The father is commenting that he liked the old educational setup better, when they disciplined the child instead of lecturing the parents. However, we ordinarily feel that treatment of the child is not really efficacious unless we can also reduce the intra-family tensions and alter the personal difficulties of the individuals therein, which factors are in large part responsible for the illness that brought the child to the clinic. In selected cases we do see the child alone, but this is usually in the older age groups.

The process of achieving wellness in a sick individual, adult or child, is a very complicated one, but consists essentially of the patient unlearning old, unsatisfactory modes of behavior and acquiring or learning new patterns that will give more personal satisfaction and bring the person into less conflict with the world about him. In this process, abreaction and desensitization are important tools. The patient needs to abreact, or react over again, to talk out his various problems. He needs to do this not once, but many times before he becomes desensitized, before he can tolerate the situation that has become so emotionally charged for him. In this process we frequently reassure where we feel we can realistically tell the patient matters are going to turn out all right, or where we can reassure that he is acting ap-

propriately, etc. At times we can gently suggest or point out modes of reaction, operation or behavior that might be more effective for the person involved. However, all of these are really secondary to the acquisition of insight, that magic word which means the patient has learned the true reasons for his behavior and can modify his future life in view of this new knowledge, modify it in such a way that he can live happily and more adequately with himself and with those about him.

Real emotional wellness in an individual or family group is a goal we unfortunately do not often obtain, but is one for which we always strive. More often we are able to assist the family group to reach a degree of stability and wellness that will allow them to function in our society in an adequate fashion and remain relatively comfortable as individuals. When so briefly stated it all sounds very glib and casual, yet there are many difficulties involved, some of which are technical in nature, but the factors of time, money and personnel are not among the least. I might also point out something most of you know as well as I do, that there are many situations in which the social and economic conditions associated with the illness in the family are so severe that the situation is impossible or irremedial, at least from a practical standpoint, often from limitations of money and time. We have all seen such situations which cause us great distress and about which we feel guilty at times, castigating ourselves that had we handled the case or situation differently it would have worked out better. However, there are many cases that are essentially untreatable or alterable because of the degree of illness or because of social and economic factors, all of which are largely beyond our control.

However, let us return to our topic of prevention, which in a sense is concerned with meeting the mental health needs of the child, and in a broader sense, of all people. I have no real answers to the questions involved and I think that none of us should have exaggerated hopes that we are going to solve these matters in the near future. The problem is an overwhelming one and while psychiatry can offer advice in specific cases wherein the details and ramifications of that case are understood, we are helpless and unable to make generalizations that will apply to people as a whole group. Mental hygiene is a movement created by and is a function of our society, society being one of the very forces which tends to produce the sort of illnesses we see. The morals, manners and mores of our group are important factors in emotional disturbances and when we attempt to apply those same morals, manners and mores to the correction of emotional disturbances, we immediately encounter a dilemma. Our institutions of education and family, which we all recognize as so important in mental hygiene, are in a sense our mores. In our society, the family and the family alone is allocated the privileges of procreating and raising children, raising them at least during their most plastic and formative years. It is during these years that the ground work for wellness or illness is laid and during which the educational processes are of the greatest importance. Here I refer to education in its broadest sense, by which I mean all types of interference with the spontaneous processes of development as they exist in the child. Children are not allowed to develop spontaneously, just as they will, as it is recognized that certain training or educational measures are necessary for the child to live in our society.

Psychiatric thought has gone through various phases in regard to mental hygiene. The first was a period of excessive optimism, in which all blame was placed on the environment and the parents as an important function of the environment, the concept being that if we corrected the environmental factors (such as sleeping arrangements, bans on sexual expressions, castration threats, abuse of authority, etc.) we would have a solution to the problem of mental illness. Important as these factors are, and they are very important, the early optimism has not been entirely justified. Later a stage of pessimism set in when it was realized that the origin of emotional disease was due, in part at least, to inevitable factors such as the insatiability of instinctual drives in the infant and young child, which must necessarily lead to painful deprivations and perhaps disease producing frustrations. Then there is the trauma of crucial life situations for

the infant such as weaning, toilet training and the birth of siblings, all of which may produce difficulties which are largely beyond our control. Also, there are the inevitable struggles which are an inseparable part of the very institution of the family itself: the growth process, involving at first identification with the parents and fantasies concerning those parents; later, individuation or separation from the parental figures, leading to maturity. No matter how perfect parents are, they cannot manage all of these things smoothly.

In the process of growth and maturation we hope that the uncontrolled impulsiveness of the infant will develop into reason by way of experience and various educational devices. It seems to me that one of the chief functions of education is to anticipate the pains and frustrations which must be experienced by everyone and to help the child to accept these in a graduated fashion rather than abruptly, which would almost certainly be detrimental. A very simple example of this would be that we must all learn to accept the fact our loved ones, important people about us, leave us for periods of time, but that they will return. The infant and very young child is delighted with the game of peek-a-boo, in which the person with whom he is playing disappears from sight for awhile, but then miraculously returns. A child will play this game endlessly, apparently trying to learn that people do come back even though they leave for awhile. Later, this is extended into games of hide and seek, which fulfill in part the same function. Fostering such play is helpful to the child, while leaving him abruptly for any length of time without preparation would almost certainly be very frightening to him.

In general, education should be directed toward more reasonableness, but often as applied it tends to become a hindrance to reason by overemphasing social realities, things we must or must not do. Through education we may communicate to the child that all impulses or instincts are dangerous. By living in our society the child learns that uncontrolled expression leads to unpleasantness and by overemphasizing these features we are apt to inhibit too much.

One of the great goals of education is to assist the child in sublimating many of his instinctual drives, but we err in thinking that suppression assists in that process. In therapy we frequently see sublimations occurring after repressions have been lifted, that is, after the child has relearned that some given impulse or feeling is not totally unacceptable. Identification with important people about the child seems to be an important factor in his learning to sublimate, so that the model presented should be carefully considered. We should look first to ourselves as parents and therapists, then to the parents of our patients and to other important people about any child, to see how these people indicate by example the method in which instinctual impulses are to be handled. For instance, a perhaps too simple example, is that a child must learn that his aggressivity cannot be expressed by beating on the head of the boy next door, but may be expressed by beating a tennis ball or golf ball.

In the constructive educative process we should, as a general rule, avoid unnecessary warnings about instincts and drives and should likewise avoid unnecessary excitations of those instincts and drives from without, which excitations might increase instinctual demands beyond the child's natural growth and his ability to handle and discharge tension produced. This is again well known as illustrated in the old admonition not to excite children too much before bedtime, or they will not sleep, will be restless and unmanageable; this simply means, if such occurs in a child, that he has been excited beyond his ability to discharge the tension or the excitation produced. There are many examples, but another common one has to do with children sleeping with the parents or siblings beyond the early years, especially siblings of the opposite sex or where there is too great disparity in age regardless of sex. If activities are selected which are in keeping with the child's level of development, he can discharge the accumulated tension and everyone is better off.

We have very few specific suggestions regarding child rearing, but I might mention those we feel can be specifically stated: Children should be spared sexual scenes involving adults; sexual seduction by adults or older children should be reduced as much as pos-

sible; direct castration threats should be prevented; we should train the child reasonably in matters of cleanliness and toilet functions, i. e., not too soon and not too strictly; the child should be prepared adequately in various manners for extraordinary life events such as the birth of siblings, operations, etc.; and above all we should try to understand the child's needs and govern our actions toward him by this understanding rather than by applying rigid, unreasonable discipline or rules of procedure.

These suggestions are very important, but are limited in their effectiveness as untoward events occur in spite of our best intentions. It is too facile to blame indiscriminately the father and mother for all of the child's wounds; blaming the mother if all of the child's needs are not cared for and blaming the father as the harsh authoritarian. However, the environment created for the child is of extreme importance and the chronic circumstances of environment which surround the child are much more important than any specific untoward event or trauma that occurs. In other words, the total mental surroundings are of crucial importance and any specific wound is of importance only as it is related to the total mental surroundings. If a child's environment is good and he feels loved and secure, he can bind considerable life difficulties; if the environment is poor and he feels unloved and insecure, a mimimal trauma or wound may precipitate real difficulties. For example, comparison of sexual differences between children is an essentially normal process and can be an important step in learning, yet if the child's environment is such that matters of this sort are harshly and punitively forbidden, such an experience can be very upsetting to the child. Consequently, the mental hygiene value of any occurrence depends less on the content of that occurrence than on the total mental environment in which it occurs. The mental structure of the child, which is a function of his past and present life, determines to a large extent the gratifying or threatening effect of such events.

It is impossible to avoid frustration in the child's life and not only impossible, but also impractical to attempt protection from all frustrations, as this prepares the child poorly for later life since we must all learn to live with certain frustrations. One area in which we perhaps prepare the child poorly for his future life concerns our attitude toward aggression. There is a great tendency to tell a child to "always be nice", to suppress and repress excessively all expressions of aggression. This leads to outer leniency on the part of an individual, yet also leads to intense conscience formation and perhaps a longing for external authority. For example, if a child is repeatedly forced to conform without being able to express or discharge his anger at being so forced, the anger tends to build up within him and because of this intense anger he feels very guilty, punishes himself because of the angry feelings which he has learned are unacceptable. Because of these intense angry feelings he may actually want someone outside himself to help him control those feelings which he fears may get out of control. Among many people there is the current impression that any expression of aggression is bad. While I do not know what is good and bad, it is apparent that the ability to act aggressively is necessary in many life situations.

As far as we know mental illness is not a biological necessity, but in one sense it is a social disease and those forms which we see result from the demands of our present civilization. However, no civilization as far as we know is without its own particular emotional problems and illnesses. The form emotional illness has taken in other times and places is different from those we currently see. For instance, within the life span of those living there seems to have been a shift in the type of illness from those of a more hysterical nature toward those that are more of a character disorder type, as perhaps typified by the adolescent's rebellions and at times delinquencies. In years gone by, Western European civilization has reported mental illnesses that we no longer see; e. g., the devil neuroses and the St. Vitus dance of a few hundred years ago. Exact details concerning these shifts are not known, but it is apparent that changes in emotional illness are concurrent with social evolution, changes in our ideas, attitudes, morals and mores. We do feel that there can

be no change in the nature or extent of emotional illnesses as we now see them without a concurrent change in the milieu so that the problem obviously becomes a social as well as a medical and psychiatric one. There is much investigation that needs to be done in this area and some research has been done.

Speaking of the milieu in which a child develops, his ideals, self-esteem, conscience formation, and the content and extent of his defenses are more a function of his total environment than they are of any direct teaching. This is another way of saying that a child develops into a product that is the result of the society in which he lives, that being the single largest factor although any particular individual in the environment may likewise be of considerable importance. I am sure it is obvious to you, but I would like to point out that the family is the child's most immediate and important environment. In our current society there seems to be a dissolution of the older type family that lived in one area and maintained ties from generation to generation, as well as family ties within the same generation; e. g., between brothers, sisters, cousins, etc. There is a new emphasis upon increased family mobility and a consequent disruption of ties from generation to generation as well as within the same generation which results in relative instability within the family. This puts great responsibility on the family head as there is tremendous emphasis on the necessity for him to assume total responsibility for the management of the family group (without any advice from "elder statesmen" within the family) and with further emphasis on his independence and ability to maintain his family group without any external help. With this great stress on independence, the family head really has no place he can turn to satisfy his own dependency needs, his regressive longing and needs to be cared for. This results in emotional conflict within the family head many times and likewise often results in symptom formation: a classic example might be the stomach ulcer in the apparently driving, aggressive, completely independent executive. Also, it almost seems that it is the mother's job to work herself out of a job. If she works very hard, raises her children adequately, allows them to separate from her and leave her, then she no longer has a job and in a sense no longer has a really adequate position in our society. This is a situation that leads to real difficulties within the mothers and often causes considerable turmoil within adolescents, that is, children during the time they are trying to separate from the parents and stand on their own feet. Many mothers (and fathers) resist letting their children grow up, separate from and leave them, which situation is met by the adolescents' hostility and rebellion. I think all of these factors have an important place in our consideration of mental hygiene.

Mental hygiene, or whatever modifications might be suggested to alter or ameliorate the factors we have discussed, is limited because of the various individuals' frequent inability to follow the advice we give, either because of environmental factors or in the case of children specifically because of the parents, but more generally speaking because of the very structure of the society in which we live, including the neuroses of that society and of the individuals therein. In other words and for example, it is difficult for the parents of a child to alter his environment or their attitudes toward the child because they are intimately involved in and are an integral part of the problem as a whole.

There is much talk of the cause of emotional illness in our society. The poor are apt to say that emotional disorders are a luxury of the idle rich, while the more affluent group is prone to feel that emotional illness is a product of economic deprivation and misery. Of course, both ideas are wrong and are in essence group defenses. Misery may at times precipitate emotional illness, but it is doubtful that it ever actually causes emotional illness in the true sense. On the other hand we do know that real personal misery may replace an emotional illness and satisfy the same need previously satisfied by the illness, for example, the need for punishment. This is well exemplified by the notable absence of severe emotional illness in the concentration camps during the war, where the prisoners were undergoing tremendous deprivations and personal misery.

In general terms, I would like to discuss

briefly with you the matter of discipline, which in a sense is the application of frustrations and is a function of the child's education. The child needs and strives for social adjustment and internal security, requiring assistance to obtain those goals. The child does need limits to help him contain anxieties about controlling his inner impulses, to reassure him there are others who will control him if he cannot manage his own impulses, thereby offering him a measure of stability not otherwise obtained and thus leading to better social adjustment. If limits are not set for a child, he will often test to see how far he can go, his behavior becoming more and more provocative until someone is forced to set limits because the child may panic, become destructive, assaultive or otherwise unmanageable. The child will seek and demand limits, so that by setting reasonable bounds within which he must stay we can assist him in a constructive fashion. Limits should be as few as possible, but the limits should be firmly enforced.

Discipline is a word that is in bad repute. I think it is often, in part at least, confused with punishment of a hostile nature. However, discipline correctly applied assists the child to gain internal security and social adjustment and is a positive maneuver as far as the child's development is concerned. I think that constructive punishment (which is in essence a withdrawal of love) falls in the same category. Punishment administered in anger has little value for the child and is chiefly an expression of the parents's own frustration, the expression of which actually frightens the parent because of his previous conditioning about his own expression of aggression, making it more difficult for the parent to apply the various maneuvers of discipline, limits or punishment in a constructive fashion. I think it is these latter factors that make us all anxious about the whole matter of limits and discipline. Incidentally, I do not think that occasional corporal punishment hurts the child much and it may make the parent feel a great deal better.

Discipline is in many ways a repressive process, directed in one way or another toward the child's instinctual drives. As previously noted, it is important that we not totally repress the child's instinctual drives, but when we must repress or discipline, we should leave outlets for those drives in other channels or areas and should indicate to the child that there are other ways of reacting and other outlets than those which we feel we have to suppress. I would like to remind you of the comments about the expression of aggression in this regard. Allowing the child outlets in a socially acceptable way produces less guilt in the child, tends to bolster his self-confidence, leads to greater reason within the child, greater independence and ability to act. Also if such concepts are applied early in the child's life and rearing, it will lead to a more adaptable character structure with fewer unmodifiable, primitive character traits or patterns.

In passing I would like to point out the importance of the educator's or parent's unconscious. Ideas may be unconsciously communicated to the child that are exactly opposite to the consciously stated intentions, which often leads to undesirable social activity, delinquency, etc. For example there is the parent who ostensibly does not want his child to engage in any sexual behavior, yet constantly questions the child about his sexuality, intimating in this fashion that he expects the child to have sexual experiences. Another example is that of a small child who ran away frequently. His father also ostensibly disapproved of this, yet questioned the child in great detail about his experiences during the period he was away from home, the father obviously vicariously enjoying the child's daring escapades. The child, of course, sensed this and realized that in spite of father's protests, father actually enjoyed the situation. This factor of parents or other important people about the child unconsciously communicating ideas almost unknown to themselves is one of tremendous importance and one which I am sure you have seen in your own work, but is a topic unto itself and one to which I only want to allude at this time.

I would like to pay my respects to this group and again tell you how much I have enjoyed speaking to you. This group represents a positive force for mental hygiene in South Carolina, and I hope I have been of some help in broaching a few of the problems. Thank you for your attention.

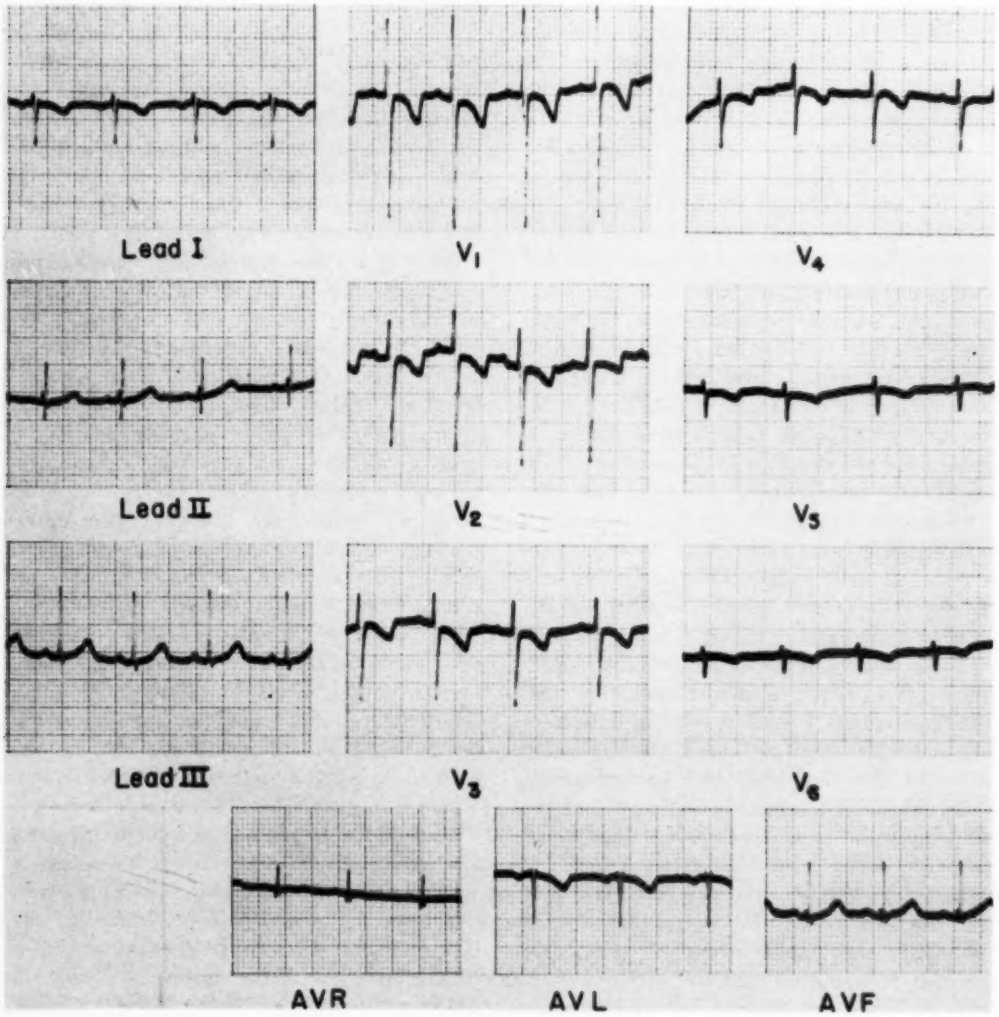
ELECTROCARDIOGRAM OF THE MONTH

DEXTROCARDIA

DALE GROOM, M. D.
Charleston, S. C.

Case Record—A 3 year old boy with no signs or symptoms of heart disease was found on routine examination to have dextrocardia. This diagnosis was confirmed on roentgenographic examination which revealed a complete situs inversus.

Electrocardiogram—There is a fairly rapid rate with some sinus arrhythmia. In lead I all major deflections, including the P waves, are downward and the electrical axis is directed to the right. Correlated with this is the progressive decrease in R waves as the



V lead electrode is moved from right to left across the chest wall. The major QRS deflections are upright in leads aVr and downward in aVl. All precordial T waves are inverted as is usual at this age, and in all other respects this electrocardiogram is normal for a child of 3.

Discussion—Of all congenital anomalies of the heart the electrocardiogram is said to be pathognomonic in only one: true congenital dextrocardia. Although not in itself a disease, this anomaly produces characteristic electrocardiographic changes which differ considerably from the usual standards of normality.

In true dextrocardia the lateral orientation of the heart is reversed. This of course reverses the polarity of lead I, which is taken from the right arm to the left arm, causing the P waves and all other deflections to appear inverted. Holding the tracing of this lead upside down before a mirror will reveal a normal lead I configuration. Furthermore lead II in dextrocardia resembles lead III of a normally positioned heart, while III looks like a normal lead II. It follows that aVr and aVl will appear reversed. The electrical axis will be directed toward the right side instead of the left, often giving the appearance of extreme right axis deviation. All of these changes, including inversion of the P waves in lead I which is cited as a conspicuous clue of dextrocardia, are sometimes accidently produced in tracings of normal subjects by inadvertently switching the lead wires to the two arms.

In the V leads it is evident that the R waves —and the total voltage of the QRS complexes —decrease as the electrode is moved from right to left. This is contrary to the usual findings, comparable to advancing the electrode across the right chest in a normal subject. Therefore the V leads demonstrate that this is actually a case of dextrocardia rather than a mistaken reversal of the arm electrodes because in the latter event no abnormality in the unipolar precordial leads (recorded with both arms connected through resistors to a common central terminal) would be expected.

An entirely normal electrocardiogram was taken on this child by switching the two arm leads, transposing positions V-1 and V-2, then placing the precordial electrode in analogous positions on the right side of the chest, the actual precordium in dextrocardia .

From the Department of Medicine, Medical College of S. C.

PELVIC INFLAMMATORY DISEASE TREATED WITH TETRACYCLINE*

J. D. Bunch, Jr., M. D., E. J. Dennis, M. D., and L. L. Hester, Jr., M. D.
Columbia and Charleston, S. C.

The problem of salpingo-oophoritis accounts for a large percentage of our gynecologic clinic visits and a conservative estimate of admissions to the hospital gynecological service indicates that such cases make up 60 per cent of our gynecological admissions. With these factors in mind, and with the realization that our therapy was far from ideal, we attempted to evaluate the effectiveness of tetracycline, one of the newer antibiotics, in controlling the infection and in reducing the duration of hospitalization.

The tetracycline family of antibiotics, including oxytetracycline and chlortetracycline as well as tetracycline itself, are closely allied chemically as well as in antimicrobial effect. Tetracycline was first produced in 1952. Since then it has been in clinical use and has been found to be fully as effective as its congeners against both gram-positive and gram-negative organisms. The side effects associated with the tetracycline antibiotics are usually restricted to the gastrointestinal tract, and are generally thought to be less frequent and less severe with tetracycline itself than with the others.

The present study is concerned with the use of tetracycline in combating several organisms, primarily the gram-negative bacilli, *Escherichia coli* and *Aerobacter aerogenes*, which were found in 30 patients with pelvic inflammatory disease.

Race: All of the patients included in this series were Negro.

Age: The youngest was 16 years of age and the oldest 48 years old with an average of 24 years of age.

Temperature: The lowest was 99.8° F. and the highest 104.6°F., with an average of 101.5°F.

Afebrile after therapy: The shortest was 4 hours and the longest was 240 hours with an average of 49 hours.

Days in the hospital: The lowest was 3 and the longest 30 with an average of 7 days.

Sedimentation rate: Sedimentation rates were obtained on 17 of the 30 patients in this series. The highest was 52 mm. and the lowest was 19 mm. with an average of 40 mm.

WBC: The highest was 29,300 and the lowest 6,100 with an average of 16,900.

Dosage: All patients who were acutely ill, with abdominal distention, dehydration and inability to retain fluids, were given 500 mg. tetracycline intravenously in 1000 ml. of fluid every 8 hours. Until they were tolerating a full liquid diet, intramuscular tetracycline was used; and thereafter, oral tetracycline was used in dosage 250 mg. every 4 or 6 hours. Sixteen of the patients in this series were able to begin oral tetracycline therapy on admission.

Cultures: Either cervical or blood or urine or abscess cultures were obtained on 22 of the 30 patients. Only two patients had blood cultures which were positive, one for *Micrococcus pyogenes var. albus* and the other for *Micrococcus* species. No cervical smear or culture was positive for gonococcus. The predominant organisms on urine culture were *Escherichia coli* and *Aerobacter aerogenes*. The predominant organisms on cervical cultures were *Esch. coli* and *A. aerogenes*.

Results: Satisfactory results were obtained in 25 patients. Five patients were unimproved after trial of 24 hours of tetracycline therapy. Of the 5 patients who were unimproved, 4 had chronic infection, one had acute infection and all had tubo-ovarian abscesses. The patient who was febrile for 10 days had a severe pelvic cellulitis on admission and later a pel-

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*From the Department of Obstetrics and Gynecology, Medical College of South Carolina and Roper Hospital.

Tetracycline supplied by Dr. M. William Amster, Director of Medical Service, Chas. Pfizer & Co., Inc., Brooklyn 6, New York.

vic abscess formed. Broad-spectrum antibiotics were given in succession without success. The abscess became localized and was drained. The temperature promptly returned to normal and the patient was discharged two days later.

The patient who was hospitalized 30 days was admitted because of low abdominal pain. She was 48 years old and her condition had been previously diagnosed as chronic pelvic inflammatory disease on several occasions. As the sedimentation rate, WB count, and temperature were all within normal limits, it was decided to do a pelvic clean-out. During surgery it was noted that she had bilateral pyosalpinx. One abscess was entered inadvertently and she had a very stormy and prolonged hospital stay thereafter.

Summary

A total of 30 patients with acute or chronic pelvic inflammatory disease were treated with tetracycline. The drug was discontinued on one patient because of side effects. This patient noted several liquid stools about 4 days after tetracycline therapy was started. The drug was discontinued and the diarrhea ceased shortly thereafter.

On the basis of this study, we believe tetracycline is an effective antibacterial adjunct in the treatment of pelvic inflammatory disease. As one would expect, the response in the acute cases was much more dramatic than the slow progressive improvement seen in the majority of the chronic cases.

EPIDEMIOLOGY OF SYPHILIS

A Report on Two Chains of Infection

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In the epidemiology of direct-contact communicable diseases, such as the venereal diseases (and to no group of diseases can the term "direct-contact" be more aptly applied), there are obviously two basic factors which should be determined as a foundation for control measures;

First—The possible source of infection.

Second—Identification of known contacts.

Since syphilis is transmitted in most instances through sexual activity, the contacts in each case are definitely known to at least one individual—the patient himself. In order to trace the infection to its source and to arrest its spread, therefore, it is essential that this vital information be obtained from the patient. Accordingly, close cooperation between the patient, the physician, the contacts and the investigating agency is of paramount importance. Each case of syphilis is potentially the beginning of a wide-spread chain of infection. Striking examples of such spread are the two epidemiological chains described below, which were uncovered in South Carolina this year by Health Department personnel during a 2½ month period.

In Florence County on March 22, 1956, a negro female, single, age 18, a high school senior, reported voluntarily to the County Health Department for examination. She had a typical secondary rash. Serological test for syphilis on blood specimen taken this date showed positive in dilution of 1/256. Last previous test on this patient (June 9, 1955) was negative. Upon interview, twenty-two contacts were elicited, 19 of whom were located in Florence and vicinity. Three of these were found to be infected, and the accompanying chart (Fig. I) shows the epidemiological chains unearthed in connection thereof. A study of the work-sheets revealed that about 85% of the contacts were from one particular section. A cluster survey was then conducted in that area, with a total of 384 blood specimens being taken, and which resulted in 8 new cases of syphilis being brought to treatment. As will be noted, many of the contacts were found to be "not infected" at the end of the time-period covered by this report. We have learned, however, that certain of these sub-

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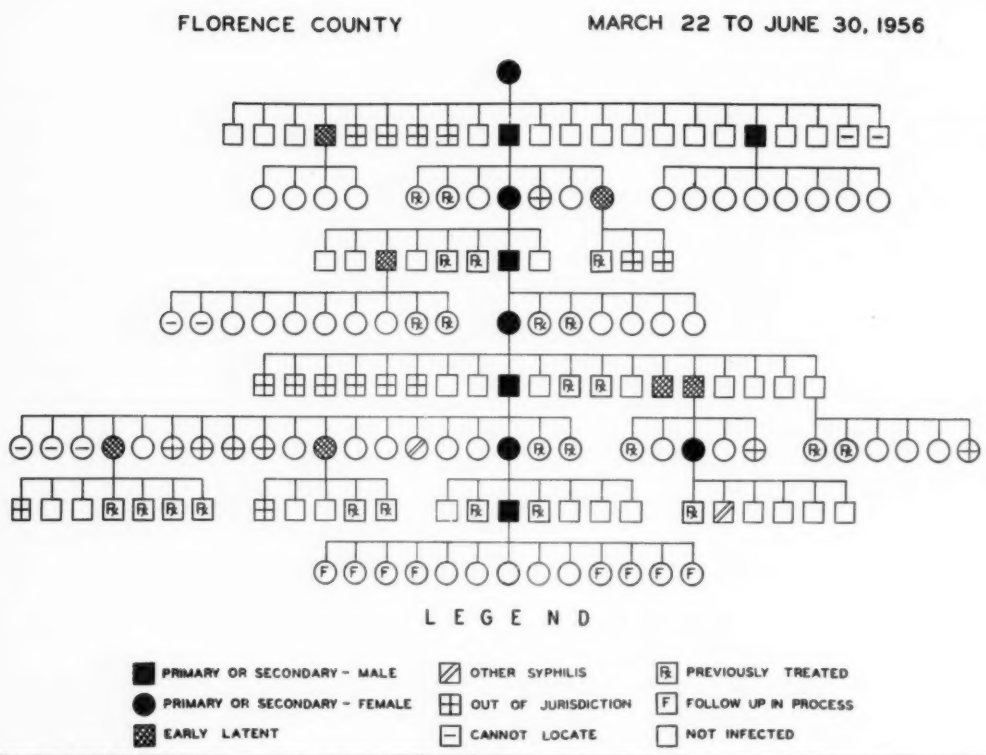


sequently developed symptoms of early syphilis.

The Anderson County Sequence (Fig. 11) began on March 15, 1956, when a colored male, age 20, with a penile lesion reported voluntarily to the County Health Department. At this time the lesion was found to be dark-field positive, although the blood was serologically negative. Three contacts were obtained, one of whom was found to be infected. The subsequent chains set up by contacts, and by contacts of contacts, are shown in the diagram. The contacts varied in age from 13 to 40 years, and among those infected were many of school age. Some of them were already under treatment by private physicians. One of these was interviewed at the request of her own physician, thus bringing to light one of the chains illustrated. In contact areas blood-testing was then instituted, and about 400 individuals voluntarily accepted the blood-testing service. This included 200 students of the 10th to 12th grades in one school. The chains which were uncovered yielded 25 new cases of early (primary or secondary) syphilis, and also 3 congenitals, a number of early and late latent cases, and 2 female homosexuals. Many were found to have had previous adequate treatment. All cases shown on the chart were authenticated; all were located and brought in for either examination or treatment. Of those in process of follow-up on June 30, 1956, two have subsequently been reported with primary lesions.

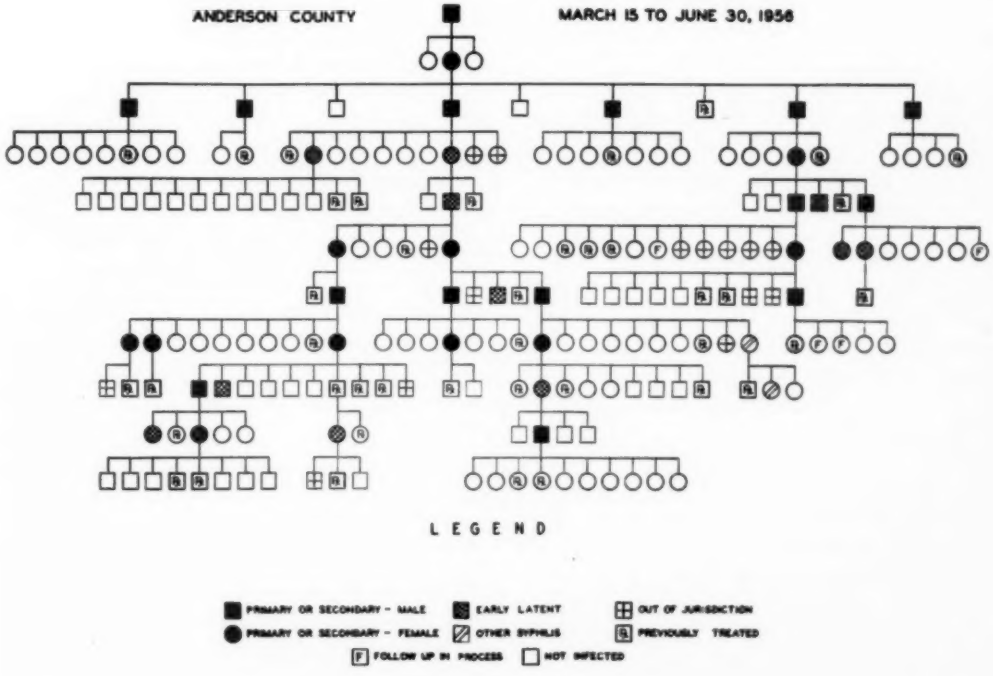
These two epidemiological sequences are representative of many which are daily being revealed over the State, and are presented in this report because they are the most complete chains to be followed through during the past several months. Usually the recorded sequence is initiated by the voluntary reporting of a syphilitic patient to the County Health Department, but somewhere during the investigation the chain may break for one reason or another. Not infrequently the chain is broken, as far as our investigations are concerned, because the infected contact is found to be already under treatment by a private

physician. Under such circumstances the investigation by Health Department personnel is automatically terminated unless or until the physician himself requests that his patient be interviewed for contacts.

According to the records of the State Board of Health, during the past 12 months 822 physicians submitted blood specimens for serological test for syphilis, on which the laboratory reports were positive, indicating that over 50% of our South Carolina physicians are still encountering syphilis in their practice. Furthermore, in the August 1956 issue of the *Journal of the South Carolina Medical Association* an article entitled "Venereal Disease Morbidity Reporting by Private Physicians" showed that private physicians are now seeing and reporting approximately 50 early cases of syphilis (primary or secondary) per month. Under our policy, however, interview and follow-up investigation of contacts of these private cases will not be instituted, as mentioned above, unless or until the physician himself makes such a request.

From the standpoint of diagnosis and treatment, the responsibility has always been and will continue to be primarily that of the private physician. His responsibility, however, does not stop there. He is *morally* a public servant just as the workers in organized health agencies are *officially* so. Too, often, however, his desire and ability to serve beyond the scope of his actual practice is limited by the necessity of earning a livelihood. It is here that public health agencies can assist by relieving him of at least part of this responsibility.

The South Carolina State Board of Health is now offering to physicians an epidemiological service, consisting of patient-interview and contact-investigation immediately upon request. Whenever a physician diagnoses a case of primary or secondary syphilis he may request this service by a telephone call collect to the V. D. Control Section of the S. C. State Board of Health or, if he prefers, he may telephone his local (county) Health Department and it will relay the message by telephone to the Columbia Office. Reporting of the case by name is not necessary. All V. D. reports and records are, of course, held in strictest con-



fidence. Immediately upon receipt of such a request an experienced district worker will be dispatched to the physician's office, regardless of which section of the state may be his location. Notices to this effect are currently being mailed, county by county, to all physicians who are using the State Board of Health Laboratory for serological testing. All physicians concerned are encouraged to utilize this service, as it will enable them to assist materially in the uncovering of new cases of syphilis and preventing the spread of infection, and in so doing they should enjoy the personal satisfaction of rendering a valuable service to their community and to their state.

Summary

The two epidemiological chains of syphilitic infection described in this report demonstrate the ease and extent of spread and the importance of patient-interviewing and contact-investigation. Numerous comparable chains are constantly developing but are beyond reach of control measures unless or until the identities and locations of those concerned can be established.

The private physician can render a valuable service by requesting epidemiologic service on his early cases—a service which the State Board of Health is now prepared to render.

Gracilis Muscle Transplant for Rectal Incontinence, Kenneth Pickrell, M. D., Nicholas Georgiade, M. D., Carter Maguire, M. D., (Charleston) and Hugh Crawford, M. D., Surgery 40:349-363, 1956.

In patients with neurogenic incontinence and anesthesia of the perineum, due to interruption of the nerve supply to the perineum, rectum, and bladder—the result of spina bifida, meningocele or paraplegia—the gracilis sling or transplant operation will restore voluntary, controlled continence. However, it is not automatic and subconscious as in the normal sphincter mechanism. This reconstructed sphincter is always tight, except when it is relaxed purposefully. In patients with rectal incontinence due to absence or division of the sphincter mechanism, who have good perineal sensation, the gracilis sling transplant will restore essentially normal, voluntary and automatic control.

Thirty-four patients have been operated upon with gratifying results. In each instance, the patient has developed continence of both feces and gas. Eighteen patients were children who ranged in age from 3 to 14 years. Fourteen were operated upon to correct neurogenic incontinence; two for imperforate anus, and one, a child of three years, for traumatic avulsion of the perineum. Of the sixteen adult patients, ranging from 20 to 72 years, three were paralegics, two had perineal colostomies, and the remaining eleven patients had developed incontinence following operations upon the rectum and anus.

Our patients, both children and adults, were essentially social outcasts except within their immediate families. Possibly resulting from this social ostracism, they were extremely anxious to learn to use the new sphincter mechanism and to attain continence.

This presentation points out in detail the neuropathology of the incontinent patient and the rationale for the gracilis muscle transplant operation. The care of the patient both before and after operation and the operative technique are described and illustrated.

HYPOTHERMIA

A Review of The Cardiovascular Effects of Hypothemia*

THEODORE G. BROWN, JR., PH. D.
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In the past few years general hypothermia has been investigated as a means of reducing oxygen requirements of the body sufficiently to allow exclusion of the heart from the circulation and thus permit intracardiac surgery under direct vision. In another important group of patients whose poor physical condition precludes radical surgery of any type, if the oxygen demands of the brain and other vital organs can be sufficiently reduced by hypothermia, it is conceivable that these patients would be able to withstand the shock of reduced circulation and even peripheral vascular embarrassment for short periods of time. Hypothermia is capable of significantly reducing metabolism and of producing a "physiologic hypotension." As such, the use of this modality suggests itself as a potentially valuable technique in a variety of conditions.

History

As far back as 1905, Simpson and Herring, working in Edinburgh, induced a state of profound generalized hypothermia in animals. They observed that at temperatures below 25° C. no anesthetic was necessary, the animals were incapable of being awakened, and appeared to feel no pain. In 1938, Fay and Henry noted that patients with malignant conditions of the bone seldom exhibited involvement of areas below the elbow or knee. They found that in these patients skin temperature of the extremities was 3° to 11° C. cooler than the rest of the body. From this observation they decided that cancer cells could not live in areas where the temperature was too cool and, therefore, they attempted to use "crymotherapy" as an inhibitor of malignant growth. Initial studies involving local application of cold on a woman with carcinoma of the cervix were partially successful, and because of this Smith and Fay in 1940 and Fay (1940) undertook cooling of the entire body for treatment of cancer in regions not accessible to local cooling. Thirty-three patients were cooled to temperatures from 23° to 32° C. and maintained there for periods of as long as eight days. Circulation time doubled, urine was normal, there was no evidence of nitrogen retention, and respiration was irregular and shallow. The patients were semi-comatose but were rousable and all exhibited a marked insensitivity to pain which had previously necessitated administration of opiates. Basal metabolism was reduced 6 to 25 per cent below normal and auricular fibrillation was a common occurence.

Vaughn, in 1940, repeated Smith and Fay's work. He subjected six patients with malignant growths to hypothermia and verified Smith and Fay's results. Vaughn felt that the procedure was hazardous because heroic measures were required to avoid death in one of the patients. He stated that relief of pain was the only advantage of the hypothermia.

In 1941, Talbott reported a study whereby hypothermia with temperatures of 28° to 32° C. for several days was utilized in treating twenty patients suffering from various psychopathic disorders. Two patients died of heart failure. There was considerable constriction of the arteries in all patients and it was difficult to draw venous blood because of venous constriction. All patients cooled to 26° C. showed auricular fibrillation.

The first reports of the use of hypothermia during a surgical operation were by McQuiston in 1949 and Bigler and McQuiston in 1951. McQuiston did not try to achieve great reductions in body temperature, but found that his methods reduced the mortality of cardiac operations in children. In 1950, three important papers were published by Bigelow, Callaghan, and Hopps; Bigelow, Lindsay and

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*This review is part of a project supported by research grant H-40 C(8) from The National Heart Institute, National Institutes of Health, Public Health Service.

Greenwood; and Bigelow *et al.*, covering their studies on experimental surface cooling. To them must go the credit for rekindling interest in this technique. They investigated the physiology of hypothermia in the dog and explored its possibilities in cardiac surgery. Hegnauer and Penrod carried out a similar series of studies for the U. S. Air Force in 1950 and 1951.

In 1951, Boerema *et al.* reported the results of their studies on the use of hypothermia in cardiac surgery. In 1952, Cookson, Neptune and Bailey reported in two papers on their studies of the use of hypothermia for cardiac surgery. Of six patients subjected to hypothermia, three developed ventricular fibrillation and the other three recovered. Two of the patients whose hearts fibrillated were adults. In 1953, Lewis and Taufic reported the successful use of hypothermia in the closure of an atrial septal defect in a human. The body temperature was reduced to 28° C. and the cardiac inflow was occluded for five and one-half minutes, thus enabling the surgeon to perform the operation under direct vision. Lewis and Taufic reported on further successful studies of the repair of atrial septal defects in 1954. Also in 1953, Swan and his group at Colorado reported on fifteen patients undergoing intracardiac operations at body temperatures ranging from 21° to 26° C. In thirteen of these cases the circulation was arrested for periods ranging from two to eight minutes and there was only one death in the series. This report by Swan was followed by further studies in 1954 by Swan and Zeavin. Bailey and his group reported on their continuing studies in 1954 with somewhat more success and, in 1955, Lewis and Taufic reported the successful closure of experimental ventricular septal defects in dogs. They had presented a preliminary report in 1953.

In Great Britain, in 1952, Delorme advocated the extracorporal method of cooling based on his experimental studies in animals. More recently, Ross, in 1954 and 1955, has used a method combining extracorporal cooling with a pump oxygenator with very good success. In 1954, Senning in Sweden also used this technique with excellent results. On the whole, however, surface cooling has been more widely employed in Britain, and much of the original work on this technique has been carried out by Dundee, Scott, and Mesham in 1953, Dundee and Mesham in 1954, Dundee, Francis and Sedzimir in 1954, Churchill-Davidson *et al.* in 1953 and by Lynn *et al.* in 1954.

In France, a technique known as "artificial hibernation" was introduced in 1951 by Laborit and Huguenard. It is still the principal technique used among the investigators on the Continent although Dogliotti and Ciocatto in 1954 carried out studies with the extracorporal circulation and hypothermia, and Juvenelle, Lind and Wigelius in 1952 and 1954 reported on their studies of extracorporal cooling and artificial circulation. The principal aim of the "artificial hibernation" method is stated to be a pharmacologic blockade of the autonomic nervous system, the blockade being reinforced by a mild degree of hypothermia.

Physiological Effects of Hypothermia

It is surprising that little of the physiology of cold and of hypothermia is known. One should keep clearly in mind the distinction between "cold" and "hypothermia." Cold is a physical state, usually used as a description of the intimate environment of warm-blooded animals. Hypothermia is a term usually restricted to describing the state of the homothermic animal with a subnormal body temperature. Hypothermia, obviously, may be of different degree (i. e., any body temperature below normal body temperature). In the range from 37° C. (98.6° F.) down to 20° C. (68° F.) there is general agreement on the following essentials.

Body temperature can be lowered by a variety of cold agents, provided shivering is prevented. Under these conditions, metabolic activity falls progressively as the body cools. There are associated decremental changes in blood pressure, blood flow, cardiac output, heart rate, etc. External respiratory movements also become slower and at some point will cease entirely. The point of cessation of external respiratory movements depends in part on the type of anesthesia used, and may vary from 20° to 28° C. From this point on, artificial respiration must be established if life is to be maintained. It has been generally

accepted that major organ function continues at temperatures below 28° C., and above 20° C. no specific permanent changes in cellular function due to hypothermia alone occur within periods of several hours. A recent report by Knocker (1955) has cast some doubt on the effects of hypothermia *per se* on major organ function. This author has shown that histopathological changes occur in the liver, kidneys and adrenal glands when the hypothermic dog is maintained at 22° to 26° C. for short periods of time. These results, while important, are not conclusive since similar changes have not been reported in the naturally hibernating animal and, thus, may be due to methods of cooling rather than cold itself. Further study is obviously necessary.

Age is apparently an important factor with regard to survival during hypothermia. Adolph, in a series of studies (1948 and 1950), has shown the young rat can tolerate deep cooling more safely than the adult. He has also studied other species of small mammals with similar results (1951). Maguire and Mercudino (1955) have recently shown an age differential in dogs. They showed that young dogs survive hypothermia more readily than adult dogs. Their studies verify the work done by Barbour, McKay and Griffith (1943) and Barbour and Gilman (1934), although Maguire and Mercudino studied primarily cardiovascular responses to hypothermia.

Rodbard *et al.* (1951) have studied changes in plasma and extracellular volumes during hypothermia of rabbits, but only to 29° C. D'Amato (1954) has studied these changes in the dog down to temperatures of 20° C. D'Amato and Hegnauer (1953) studied changes in blood volume of the hypothermic dog. Helmsworth, Stiles and Elstein (1955) studied the changes in blood cellular elements during hypothermia. They found that there was a rise in hematocrit count and mean corpuscular volume. The leukocyte count fell considerably and there was a fall in eosinophil count. The mean corpuscular hemoglobin concentration was reduced and the platelet count showed great reduction. All animals exhibited a hemorrhagic diathesis, and while no coagulation studies were made, the experiments suggested a prolonged bleeding time and thrombocytopenia during hypothermia.

Haterius and Maison (1948) have studied the rewarming of the hypothermic dog and found that of twenty-one dogs cooled to an average rectal temperature of 14.9° C., eight died during or immediately after rewarming due to respiratory failure or heart block. Spur, Hutt and Horvath (1954) have studied prolonged stable hypothemia in dogs ranging from one to thirty-four hours in duration. They found an exponential relationship between the fall in heart rate, pulmonary ventilation and oxygen consumption, and the reduction in rectal temperature. These relationships were in agreement with van'T Hoff's rule. DaCosta, Ratcliffe and Gerbode (1954) studied the physiological effects of hypothermia in chronic experimental cyanosis. They found that dogs with this defect did not differ from normal dogs in their response to hypothermia. Fisher *et al.* (1954 and 1955) studied the effects of prolonged hypothermia (up to 36 hours) with results similar to those of the two previous studies. Niazi and Lewis (1954) studied the effects of deep hypothermia and simultaneous cardiac standstill in adult rats. They observed that if cardiac standstill occurred prior to ventricular fibrillation the animals could be carried to much lower temperatures (10° C.) with apparent complete recovery.

Several studies have been carried out to determine the effect of hypothermia on cerebral activity and function. Scott, McQueen and Callaghan (1953) and Callaghan *et al* (1954) found that at 20° C. the electroencephalogram of monkeys showed little or no activity. There was no evidence of any temporary or permanent damage following rewarming. Rosomoff and Holaday (1954) reported that there was no apparent hypoxia of brain tissue in dogs cooled to 25° C. Similar results had been reported by Fazehas and Himwich (1939) and Hamilton (1937). Williams *et al.* (1954) and Pontius *et al.* (1954) reporting in *Surgical Forums* advocated the possible use of hypothermia and interrupted circulation as a means of performing cerebral surgery.

Hibernation

With the introduction of hypothermia clinically, interest has been rekindled in studies on the hibernating mammals. As a result there

has been some confusion between the terms *Hibernation* and *hypothermia*. Any mammal, if exposed to a sufficiently low temperature, will increase its muscular activity, shiver, and increase its metabolic rate. If the cold is too intense or of too long duration, exhaustion eventually takes place and the animal begins to cool. When a critical level of body temperature is reached, death occurs, usually as a result of cardiac arrest or ventricular fibrillation. This sequence of events can occur in both hibernators and mammals that do not hibernate, but death takes place at a much lower temperature in the hibernator. Similar conditions can be duplicated by anesthetizing an animal and exposing it to cold.

One important factor which characterizes the deeply hibernating state is that the normal hibernating animal is capable of arousing from this state without the aid of heat from external sources. Any hibernating mammal which has received a stimulus strong enough to start the process of awakening will begin a chain of physiological reactions which result in a rapid production of heat and culminate with the animal being fully awake at the end of two or more hours. Failure to realize that this is typical of true deep hibernation has led to some confusion. For example, hibernators treated with drugs such as pentobarbital sodium and then exposed to cold cannot be considered to be in the deeply hibernating state when their body temperature drops to that of the environment because they are incapable of arousing themselves from this state regardless of the external stimulus.

Many of the studies on hibernating mammals have been carried out by Lyman (1951), Lyman and Chatfield (1953 and 1955) and Lyman and Hastings (1951). Bigelow and McBirine (1953) and Bigelow, Mustard and Evans (1954) studied the groundhog and its "hibernation gland" in an attempt to find a hormone responsible for hibernation. Dawe and Morrison (1954) and Nardone, Wilber and Musacches (1954) studied the characteristics of the hibernating heart and the electrocardiogram patterns in some detail. Smith and Fairer in England (1953) reported on studies in that country concerned with the relation of hibernation and hypothermia.

Deane and Lyman (1954) have shown that there is a decline in thyroid and adrenal activity associated with hibernation. This lack of response of endocrines so intimately concerned with metabolism must be permissive of the hibernating state, but the evidence is not convincing that the endocrines exert a dominant role in the onset of hibernation.

Chatfield and Lyman (1950) reported that they have occasionally observed a dissociation of the auricles and ventricles during hibernation of the hamster. In as much as in hypothermia of the nonhibernating animal auricular fibrillation, abnormally slow conduction and 2:1 and 3:1 A-V blocks have been reported by Crimson (1944) and by Fairfield (1948), it seems certain that of all the conducting mechanisms of the heart the auriculo-ventricular junctional tissue is the most susceptible to the effects of cold. Chatfield and Lyman (1950) have also observed marked dilation of the peripheral circulation in the hibernating animal.

Methods of Cooling

Several techniques have been employed to secure general hypothermia. Production of hypothermia by surface cooling is the most widely used method and is accomplished by (a) immersion in ice water, (b) enclosing or wrapping the patient or animal in a refrigerating blanket, and (c) cooling with air. Of these three methods of cooling, immersion in ice water up to the lower third of the thorax is the simplest method and many investigators feel that this may be the clinical method of choice in infants and children. The refrigerating blanket in some respects is more convenient since it can be more easily controlled and can be used for rewarming. It is also the preferred clinical method of cooling for larger children and adults. Cooling with air has been used only under experimental conditions although recent studies in Sweden indicate that this method has been used clinically with some success in that country. It should be pointed out, however, that direct application of cold of any duration to skin or surface areas may bring about the development of acute tissue damage. This is often seen in accidental prolonged immersion, and was especially frequent among fliers shot down at

sea during World War II. Kreyburg (1949) outlined the pathology of such damage and all investigators should realize that it can occur during any prolonged hypothermia.

Extracorporal circulation and cooling, with and without the use of the artificial heart pump, has been used with success by some investigators. The cost of such equipment, however, has to date apparently been one of the principal reasons for its limited use. Recent adaptation of this technique has been introduced with singularly good success. Ross (1954) introduced a relatively simple and inexpensive machine in England. Gollan, Blos and Schuman (1952) and Gollan, *et al.* (1955) in this country have used a combination of extracorporal cooling with a heart pump and oxygenator to cool dogs to temperatures of about 5° C. with recovery. Juvenelle, Lind and Wigelius (1954) have studied the use of extracorporal cooling and artificial circulation with a heart pump in combination with the drugs of "artificial hibernation." A review of their studies does not show that there are any marked advantages to be obtained from the use of the "hibernation" drugs. Peirce and Polley (1953) have studied differential cooling of the heart alone for use in intracardiac surgery. Generally speaking, it would appear at this time that hypothermia produced by extracorporal cooling and combined with the heart pump oxygenator offers greater degrees of cooling and more adequate oxygenation with recovery than the other methods used to date.

The use of drug-induced hypothermia under the general designation of "artificial hibernation," or "slow-motion life," or "sympathetic neuroplegia" has been used extensively in Europe, especially in France. Drugs are usually used in conjunction with a mild degree of surface cooling to facilitate the production of hypothermia.

The phenomena developed in men and claimed by some in Europe to be of clinical value, designated under the terms "artificial hibernation," or "slow motion life," or "sympathetic neuroplegia," are not the same as the deep hypothermia which is the main topic of this paper. Because it is essential clearly to distinguish the two sets of phenomena so that hypothermia receives none of the disapproval due the "artificial hibernation," "slow motion life," etc., the following paragraphs describing the "artificial hibernation," "slow motion life," etc., are inserted here.

The drug-induced hypothermia, according to published data, usually decreases the temperature of the subject only from 0.5° to 3.0°C. The drugs which have been used are given in a mixture containing from three to eight different agents, the mixture usually called a "French cocktail," or "lytic cocktail."

The originators of the "French cocktail" are the biologists Laborit and Huguenard. They have described the hypothesis of this technique in broad outline to the effect that warm-blooded mammals, and particularly men, have evolved into a state of relative freedom from their environment as described by Bernard's *milieu interne* and the "homeostasis" of Cannon. Their metabolic activity, as mediated through a so-called neuro-endocrine system, operates at an extremely high rate. Because of this condition the organism may soon exhaust itself, but through a reduced metabolic level the same energy might serve to overcome the severe stimulus and permit survival. From this romantic concept has sprung a rash of clinical applications, from which, in turn, great claims have been made. The "lytic cocktail," containing from three to eight different drugs and varied at the whim of the physician, is administered over a period of days to patients with a variety of diseases. Operations may be performed and it is alleged that the patients would not have survived their diseases and their treatment had they not been subjected to polypharmacy.

It is true that there are changes in the patient simulating a drugged sleep. He is lethargic and moves only a little; his pulse and blood pressure are decreased; pain response is decreased; emotional reactions lost; but vital functions persist. They stated that metabolism is markedly reduced; yet no studies of oxygen consumption have been done. The term "sympathetic neuroplegia" suggests paralysis of the sympathetic or parasympathetic systems or both, but no testing of sympathetic functions can be found in the literature. The word "hibernation" has been

used; yet published data on body temperature reveal a drop of only 0.5° to 3°C. This temperature level is known to have only a slight effect on metabolism and is a far cry from the hibernating animal whose temperature may be in the neighborhood of 4°C. to 10°C. or lower. It is apparent, then, that a state of skepticism regarding this bold theory will remain until some scientific evidence is submitted to lift it from the realm of philosophy. From the point of view of hypothermia, however, it must be emphasized that the French are describing a state in which body temperature is only slightly below normal.

Investigators in this country and Britain have been rather sharp in their criticism of the use of the lytic cocktail. Burn (1954) has been conspicuously outspoken among the English pharmacologists, while Swan (1954) in this country has been extremely critical of the rationale of its use. Juvenelle (1954) in France, while critical of the techniques employed by Laborit, has presented an interesting and calm evaluation of the drug or drugs as they are used in the lytic cocktail. A recent study has been carried out in this country by Fabian *et al.* (1955), but it does not add any significant new data to information which already exists.

From Britain, on the other hand, has appeared an important study of the relation between the "lytic cocktail" and hypothermia. Previous work there had been largely concerned with the use of hypotensive anesthesia as a means of reducing hemorrhage during certain operative procedures. Hypothermia was not involved except by analogy. Pharmacologic hypotension, at levels of 70 to 100 mm. Hg. systolic pressure were demonstrated to be well tolerated by the anesthetized human. Hypothermia in the range between 35° and 20°C. causes progressive lowering of systolic blood pressure by 30 to 60 mm. Hg., with tissue and organ survival. Both methods, apparently result in a form of "physiologic," or survivable hypotension. Dundee *et al.* (1953) studied in both dogs and patients the effect of (a) hypothermia on metabolic rate, (b) each agent of the "lytic cocktail" on the cooling process, and (c) the "lytic cocktail" on cooling and metabolic rate.

With regard to the first, they confirmed the previous work of Martin (1930) and of Bigelow *et al.* (1950), by demonstrating that in the absence of shivering a definite relation exists between body temperature and oxygen consumption. The metabolism drops about 5 per cent for each degree Centigrade down to 27°C., and less rapidly thereafter. Penrod (1949) has shown that oxygen consumption varied directly with the degree of shivering. Second, of the three principal components of the cocktail, Pethidine (meperidine hydrochloride) "vagolytic," Avomine (promethazine chlorotheophyllinate) "sympatholytic," and chloropromazine "CNS depressant," only the last appeared to enhance the speed of cooling, and then apparently only through inhibition of shivering. Deep anesthesia and curarization were essentially as effective in promoting hypothermia. Thus, the importance of the inhibition of muscle activity as pointed out by Smith and Fay (1940) has been confirmed. Third, the "cocktail" itself resulted in a fall of body temperature rarely in excess of 2° C. (averaging 0.5° C.) and oxygen consumption fell only 8 to 10 percent. It can be seen that the claims that the "cocktail" specifically lowers metabolism remain unconfirmed.

Laborit and Weber (1956) in a recent article have presented an answer to their critics. On the whole, though, it does not offer any really significant data to substantiate their claims. It would appear, therefore, that the problem is far from settled and only further study can hope to provide satisfactory solutions.

The first extensive studies on the pharmacology of chloropromazine and its derivatives were done by Courvoisier *et al.* in 1953. Chloropromazine has a rather wide range of actions which are not all clearly understood. Among them are these; (a) it potentiates the action of barbiturates; (b) it produces a severe degree of postural hypotension; (c) in large doses it may reverse the vasopressor action of epinephrine and methedrine, although norepinephrine is not affected; and (d) it is highly irritant to veins and must be given by drip technique or be well diluted when injected directly into the veins.

Cardiovascular Effects of Hypothermia

The cardiovascular effects of cooling are complex and even though it has been the subject of intensive investigations, not all workers have reached the same conclusions. The salient features appear to be, (a) a fall in heart rate and blood pressure, (b) a slowing of intracardiac conduction, (c) a drop in cardiac output, (d) a rise in venous pressure, (e) an increase in cardiac irritability in some form, and (f) a decrease in myocardial oxygen consumption. All of these effects become particularly marked at temperatures below 28° C. At temperatures in the range of 20° C. the oxygen consumption of the body, cardiac output, blood pressure and heart rate are about 15 per cent of that observed at 37° C.

The increased irritability of the myocardium observed by all investigators and culminating in ventricular fibrillation is one of the most vexing problems of general hypothermia. It is, in effect, the only cause of death seen during hypothermia. The few cases in which cardiac arrest develops almost invariably change to ventricular fibrillation just prior to the onset of death. Hoff and Stansfield (1949) reported cases of experimental ventricular fibrillation induced by cold. Hegnauer and Penrod in their studies for the U. S. Air Force (1950) reported a high incidence of fibrillation in experiments with dogs. Among their studies they demonstrated that placement of intraventricular catheters during hypothermia greatly increased the incidence of fibrillation. Further studies carried out by Covino, Charleson and D'Amato (1954) determined that endogenous epinephrine and cardiac overloading were not primary causes of ventricular fibrillation.

Myocardial anoxia was first thought by Prec *et al.* (1949) and Hegnauer, Schriber and Haterius (1950) to be the etiologic factor involved in the apparent increased irritability. More recent studies by Hegnauer and D'Amato (1954) and Badeer (1955) have shown rather conclusively that this condition probably does not exist, although Lange, Weiner and Gold (1949) still hold to the anoxia concept. The apparent reason for these conflicting views is the study by Brown and Hill (1922) in which they reported a shift in the oxyhemoglobin dissociation curve at reduced temperatures. At the same time, however, the oxygen-carrying capacity of serum in the form of physically dissolved oxygen has been shown by Rosenhain and Penrod (1951) to be increased by 25 per cent at hypothermic temperatures. It has also been shown by Penrod (1951) that there is a normal A-V oxygen difference at 20° C. This would support the idea that no cardiac hypoxia results from the shift of the hemoglobin dissociation curve. Penrod has also shown that the use of 100 per cent oxygen with the concomitant increase in dissolved oxygen does not affect coronary A-V difference, although Bigelow, Mustard and Evans (1954) present evidence to show that total oxygen consumption is greater under conditions of arterial oxygen saturation (90 per cent to 100 per cent) than under hypoxic conditions (arterial saturation less than 90 per cent). McMillan *et al.* (1955) have shown that arterial oxygen saturation was satisfactory and have postulated that if hypoxia is to be a major factor in producing ventricular fibrillation, then a block must occur in the transfer of oxygen between the red blood cells and tissue cells. Such a block would produce a decrease in A-V oxygen difference, but Penrod has reported that such is not the case during progressive cooling. In Penrod's studies, however, no coronary flow measurements were carried out; hence, no accurate estimate of oxygen consumption by the myocardium could be made. Edwards *et al.* (1955) have shown that following coronary perfusion with oxygenated blood in the hypothermic dog during cardiac occlusion, ventricular fibrillation was less frequent than in those animals that were not perfused. Therefore, it would appear that while hypoxia is probably not the cause of ventricular fibrillation, anoxemia produced by an insufficient coronary blood flow brought about by the markedly reduced blood pressure may be one of the factors which could precipitate fibrillation or cardiac arrest.

In support of the hypoxic origin of myocardial impairment is the work of Lange, Weiner and Gold (1949). They detected electrocardiographic changes during hypothermia which resembled those produced by

anoxia at normal temperatures. By increasing the amount of physically dissolved oxygen in plasma or acidification of the blood they were able to reverse these changes.

In biochemical studies both Fleming (1954) and Swan *et al.* (1953) demonstrated that the pH of the blood can be varied within rather wide limits, depending on the rate and depth of positive pressure artificial respiration with pure oxygen. Swan does not state the exact limits which he used in his experiments. Fleming maintained a pH of 7.5 with forced ventilation at 20° C. as compared to a normal pH of 7.35 at 37° C., and a pH of 7.03 at 20° C. with inadequate ventilation. The incidence of spontaneous fibrillation was greatly reduced under the conditions of forced ventilation. Swan demonstrated that where cardiac occlusion methods were employed in surgery for periods of up to fifteen minutes, ventricular fibrillation always occurred upon release of the occlusion and was accompanied by a rapid rise in venous blood pH from extremely low levels. This rapid rise in pH is believed to be due to an accumulation of CO_2 in the tissues and a rapid washing out of this CO_2 with the reinstitution of peripheral circulation. It was found that the only way to prevent this rapid pH change was by preliminary hyperventilation with 100 per cent oxygen. In both of these studies, however, it was found that animals appear to tolerate low body temperatures better if their pH is maintained at high levels, *i. e.*, on the alkaline side of normal.

The recent study by McMillan, working with Churchill-Davidson (1955), has confirmed the report of Swan that rapid changes in CO_2 levels and hence pH may produce fibrillation under conditions of circulatory arrest. They present evidence, however, to indicate that while this is an important factor, it is not a major factor in spontaneous fibrillation. Once fibrillation has occurred, it may make the situation worse, and so it would seem advisable to maintain a steady blood pH and CO_2 level under conditions of hypothermia. Churchill-Davidson's group found no evidence of an initial respiratory alkalosis similar to that observed by Osburn (1953). They have also shown that the pH changes are in keeping with the carbon dioxide changes which to them suggests that the respiratory acidosis which develops in hypothermia when respiration is not controlled is not associated with a disorder of cellular metabolism and consequently the presence of acid metabolites. The apparent absence of metabolic acidosis has been confirmed by Fleming (1954) who did not find an alteration in blood pyruvates and lactates.

Brewin *et al.* in a series of studies (1954, 1955, 1956) have investigated the general problem of acid-base equilibrium during hypothermia. These investigators have found that the increased acidity, which might be expected to result from the increased amount of CO_2 dissolved with decreasing temperature, is offset by the greater carrying power for CO_2 as bicarbonate which also occurs with decreasing temperature. In all animals which were subjected to hypothermia, they observed that a metabolic acidosis developed on cooling which was not completely reversed on rewarming. This observation of underlying metabolic acidosis in hypothermic animals is contrary to the results of Fleming (1954), McMillan *et al.* (1955), and Cranston, Pepper and Ross (1955) who have denied that metabolic acidosis exists in circumstances of spontaneous respiration during hypothermia. Cranston, Pepper and Ross claim that only a gaseous or respiratory acidosis is present because of the increased solubility of CO_2 at lower temperatures and because the arterial pCO_2 was maintained at levels close to those found at normal body temperature. Brewin feels that this high gaseous acidosis reported by Cranston, Pepper and Ross could quickly be reduced by artificial ventilation. Cranston, Pepper and Ross also found that the sodium, potassium and chloride concentrations showed little change during and after cooling, and they argue that these results support their belief that no metabolic acidosis was present. Brewin *et al.*, on the other hand, feel that such findings cannot exclude the presence of metabolic acidosis. They point out that the studies of Fleming, McMillan and others were obtained in animals or patients who were surface cooled. Brewin *et al.* cooled all animals and patients by extracorporal cooling and suggest that this may or may not be an important

consideration.

Brewin *et al.* have reported that the final metabolic acidosis following the rewarming period was more severe in animals which were artificially ventilated than in those which had breathed spontaneously. The reason for this is not clear although they suggest that the respiratory alkalosis produced by the artificial ventilation during cooling is partly compensated for by the renal excretion of base. Deterling *et al.* (1955) have also reported that metabolic acidosis develops during hypothermia in animals ventilated artificially and that during rewarming such acidosis did not disappear.

The cause of the metabolic acidosis of Brewin *et al.* and Deterling *et al,* is not known. It is known that shivering will cause lactate production, but in experiments by Brewin and others gross shivering was prevented. It has been suggested by Brewin *et al.* that prolonged exposure to anesthesia may be responsible for some of the metabolic acidosis which they found.

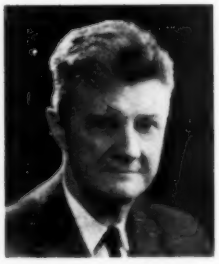
Brewin *et al.* have carried their studies further and subjected animals to hypothermia and thoracotomy with a ten-minute period of circulatory arrest. Under these conditions a more severe acidosis developed which usually became worse on rewarming. Similar results were obtained in human patients undergoing open cardiac surgery under hypothermia. This severe acidosis was primarily a lactacidosis and they feel that it is due primarily to some impairment of the circulation. This increased lactacidosis during rewarming was not felt to be related to inadequate respiration. An important aspect of severe acidosis in a patient would be that it will certainly prejudice his chances of recovery from a cardiac operation under hypothermia.

Studies were carried out by Brewin's group in an attempt to find the cause of the acidosis. It was subsequently found that following circulatory arrest for ten minutes under hypothermia there was a severe derangement of liver function and structure. On rewarming, the liver was not improved. The nature of this damage was rather severe disruption of the lobular architecture with centrolobular congestion and necrosis and extravasation of blood. There was a corresponding venous congestion of the viscera with rise in central venous pressure of the order of 15-20 cm. H_2O or more. This increase in central venous pressure was largely prevented by alternately aspirating blood from the inferior vena cava and superior vena cava and returning it by pump to the cannulated femoral artery. In such a manner the central venous pressure was maintained at levels below 10 cm. H_2O. By reducing venous congestion the metabolic acidosis was largely alleviated and cellular structure of the liver was not altered.

These very important studies by Brewin *et al.* indicate that investigation of liver function during the human operation must be carried out in order to establish the presence of similar changes in the human. It is obvious that the results of liver damage produced as a side-effect of venous occlusion during hypothermia can only influence adversely the immediate prognosis. The primary liver damage and the metabolic acidosis which secondarily supervenes can probably be overcome if the patient survives long enough, but there is a definite risk that the patient may not survive.

(To Be Concluded)

The concluding portion of this review will include a brief discussion of ventricular fibrillation, electrolyte changes, renal function, epinephrine, electrocardiogram changes and myocardial function during hypothermia.



PRESIDENT'S PAGE

These thoughts are prompted by a recent meeting of the Anderson County Medical Society at which the topic of discussion was medical ethics. Medical ethics differ from personal ethics only in that they take into consideration that the medical profession is primarily dedicated to service to humanity. Their nature is such that they are based upon principles and cannot be reduced to a set of rules. In application one must consider the rights of the patient and of the physician, the duty of the physician to the patient and to the medical profession and the duty of both the physician and patient to the public. The subject has been simplified by a proposed revision of the Principles of Medical Ethics of the American Medical Association to be considered at the Clinical Meeting in December.

Not many years ago an important concern of medical ethics was proper respect of one physician for the opinion of another in regard to diagnosis. With the recent great advance in the science of medicine, diagnosis is upon a much more factual basis, thus eliminating a great deal of ground for controversy with its attendant ethical problems. At present probably the most common field of misunderstanding is connected with the referral of patients. As a rule this can be attributed to the manner of referral. The referring physician should be careful to designate whether he desires a special service, an opinion only, or complete treatment of the patient. Generally it is well for the patient to know the type of service expected of the physician to whom he is referred. A form has been devised by the Academy of General Practice to reduce the likelihood of misunderstanding in this field.

A patient is referred to a physician on account of his special knowledge and experience in some particular field. It is to be expected that in some cases the opinion of the examining physician will differ from that of the referring physician. In such case the examining physician must guard against disparaging the ability of the referring physician. The reason for the difference of opinion should be explained so that the confidence of the patient in his physician is maintained.

There can be no general rule as to what to tell a patient in case of serious illness, but certain ethical considerations must be borne in mind. The patient has a moral right to a knowledge of his condition; the physician is within his rights to refuse to misrepresent facts; the duty of the physician is to help the patient and to take every precaution against harming him. There is often a conflict of interests which must be resolved as best possible. What, when and how to tell the patient demands the utmost consideration due to the many factors involved. To deal further with this problem is beyond the scope of these remarks, except to say that an attitude of kindness and understanding is essential whatever course of action is decided upon.

William H. Prioleau, President

Editorials

NATUROPATHY

On August 20 the Supreme Court of the State upheld the law recently passed which banned naturopathy in South Carolina. The attorney-general held that the law was designed to protect the public health of the state from practice of an art for which the practitioners could not produce suitable qualifications. As was expected the attorney for the Naturopathic Association gave notice of appeal to the Supreme Court of the United States.

Apparently seeing the handwriting on the wall, many, but not all, of the naturopaths have folded their tents and departed for new pastures. At the same time there appears to be an outburst of enthusiastic advertising by the chiropractors, who probably look with some glee on the vacancy created among the gullible public. It may be that for the moment the support of the legislators has been strained to its ultimate political possibilities, but inevitably the time must come for another effort in another direction.

THE FLUORIDE FIGHT

All over the country there has been much talk about the virtues, or horrors, of adding fluoride to water supplies for the purpose of building stronger teeth for our children, or, according to the opponents, for the purpose of producing dreadful effects on the unsuspecting public. The arguments have been aired in our own newspapers of the cities in which the measure has been proposed. They have been sometimes violent, and in many cases rather critical of the knowledge and intelligence of the medical profession.

It is hard to sift out the whole evidence without detailed technical knowledge of the effect of fluoride. As in all such matters it seems best to go to the writings of the people who by long and careful study should know most about the subject, one which has long been under investigation.

As far as can be judged, the case might be rested on a few facts, or as near facts as can be determined by present well tried information.

First, there is no proof that fluoride in the amount recommended has any harmful effect.

Second, there appears to be excellent proof that fluorides added to drinking water in proper amounts will affect the structure of children's teeth so that decay is reduced to a very large extent.

Third, in areas where fluorides occur naturally in the amounts estimated as effective, there is a lower incidence of caries than in other localities.

Much of the public argument has involved a questioning of these facts, and the production of numerous expressions of fear of the harmful effect of fluorides. Little of it has come from qualified medical sources, most of it from people who know about as much about the place of fluoride in human physiology as a cat does about Christmas. Some of it comes from medical people who have sincere convictions but little scientific evidence to bolster them. Respect must be given to their opinions and to the experience of some few communities which have abandoned fluoridation for reasons which are not at present entirely evident or definitely medical.

What has been queried chiefly is the matter of compulsory use of treated water by those who do not approve of fluoridation. The more politically conscious members of the profession cry that such compulsion is undemocratic and dictatorial, and that bad teeth and toothaches are not in the field of public health—a rather outmoded point of view which seems to consider that public health is still concerned chiefly with miasmata, fumigation, and quarantine. One wonders whether proper medical guidance is not more valuable than public opinion based on indifference, misinformation, or cultivated prejudice. Were we to encourage the public to review and legislate on such a matter of public health as smallpox vaccination, we could well expect many of the next generation to creep in pustular horror to their

early graves and the rest to be as pockmarked as George Washington.

South Carolina communities have considered the matter of fluoridation lately. The Spartanburg Board of Health proposes to furnish fluoride tablets to children whose parents want them rather than to treat the city water supply. Charleston voted for fluoridation by a considerable majority, but City Council did not carry out the wishes of its people, and discovered to its great satisfaction that the artesian wells available inconveniently to nearly everybody in the city provided water with an adequate content of fluoride. It is hard to visualize the children of Spartanburg taking their daily tablets and the parents of Charleston forming lines to wait their turn for the healing waters of the few available wells.

Discussing fluoridation, Dr. Walter Alvarez has this to say—"What puzzles me is why, when a city pays able experts in public health to keep the people healthy, more of these people do not leave matters of health in the hands of the experts. Why should the people who know nothing about these problems insist on making the decisions in regard to them. Why should they demand to vote upon the issue? I might as well demand a voice in the designing of a new tunnel under the Hudson river." And with this point of view we should be in agreement. It would seem to be the position of the Armed Forces, The Public Health Service, many many communities and of most people who have inquired thoroughly into the question.

The following have been appointed by Dr. Prioleau to the Committee to make recommendations regarding practice by graduates of non-recognized medical schools, and foreign physicians here on temporary basis: Dr. Sam O. Cantey, Chairman; Drs. Gordon Able, W. P. Beckman, George Dawson, Cheves Smythe, and James McQuown.

"A SMALL LEAK WILL SINK A GREAT SHIP"

G. Westbrook Murphy, M. D.
Asheville, N. C.

Read before the First General Session, Medical Society of the State of North Carolina, Pinehurst, May 1, 1956.

This pertinent article is reprinted with permission from the North Carolina Medical Journal of June 1956. Introductory remarks and one other very short section have been omitted. — The Editor

Threats to the Private Practice of Medicine

Ours is a time of great struggle. The East is arrayed against the West, liberal against conservative, socialism against private enterprise, labor against capital, and Negroid against Caucasian. Of more immediate concern to us is a determined effort by numerous lay interests to assume control of the practice of medicine in North Carolina and the United States.

With every fiber of my being I believe that the unlimited choice of physician, the free selection of patient, the unqualified responsibility of physician to patient, the unhampered exercise of professional judgment, and the direct reward for individual initiative form the only possible basis for the acceptable medical care of free men. On every passing day these essential qualities are being degraded and the perimeter of private practice is being constricted. Those who are about to destroy our system of practice fall into a number of diversified groups but they have at least one thing in common. As organizations they are not "natural persons." Therefore they have no souls, they have no consciences, they cannot exercise professional judgment, and they are impersonally ruthless.

As a rule they operate behind screens of well meaning laymen who are largely unaware of their true objectives. Often they have the assistance of physicians who do not comprehend the devastating end results of their policies.

Generally, they are so well organized as to demand and secure conformity from their component units.

There is nothing vindictive or punitive in their attitude toward medicine. Unfortunately we are "caught in the middle" as we stand in the way of their expanding programs. The day is not far off when industry, labor, govern-

ment, insurance companies, hospitals, and related groups will combine in their campaign to control all health activities. If we are not organized into a position of strength, private practice, as we have known it, will cease to exist.

I will give to you a number of illustrations and endeavor to make some observations which will convince you beyond reasonable doubt that the private practice of medicine in North Carolina is in imminent danger of losing its status as a professional art and is being forced into the mold of a trade. The very keystone of practice is the patient-doctor relationship. The respect of patient for doctor and the influence of doctor with patient are the primary targets at which all attacks are directed.

Industrial and labor groups

As illustrated by the Kaiser Medical Service Plan on the West Coast and by a proposed plan of the Atlantic Coastline Railroad in Wilmington, industry over the nation is building a series of hospitals and is organizing medical service plans for employees and their dependents, which are staffed by salaried and closed panel physicians.

Labor also is establishing hospitals and complete medical service plans, staffed by salaried and closed panel physicians, to care for their members and their dependents.

At a recent congressional hearing, Frederick F. Umbrey, executive secretary, The International Ladies Garment Workers' Union, complained of the lack of cooperation from physicians and recommended that the Sherman Antitrust Act be so amended as to include medical and hospital services.

Dr. Edwin F. Dailey, vice president of the Health Insurance Plan of greater New York has predicted that organized labor will soon establish the pattern of medical care in the United States.

Federal and state encroachments

The Veterans Administration is providing hospital care and medical service for an ever increasing number of non-service connected disabilities. It is not impossible that within the near future dependents of veterans will be included.

The vast Social Security system now provides cash payment and medical and remedial care for needy individuals 18 years of age or older when permanently and totally disabled. It seems quite likely that by means of House Resolution 7225 the Social Security Act will be so amended as to provide cash benefits to workers 50 years of age and older who are totally and permanently disabled. These people will, of necessity, have their disability certified by private physicians at government expense.

Medical and hospital care for federal employees and their dependents and for members of the armed forces and their dependents is being expanded at a tremendous pace.

The use of federal funds for medical schools, hospitals, and clinics has increased to an alarming degree, and the end is not in sight.

The North Carolina Department of Health is ever encroaching further on the private practice of medicine.

Immunization and the diagnosis and treatment of tuberculosis are now largely in the hands of the health department.

The belief that industrial medicine should be a health department activity is held by many officials.

In his report to this society in 1955 Dr. J. W. R. Norton, our State Health Officer, indicated a trend when he suggested that noncommunicable diseases such as cancer, nephritis, diabetes, arthritis, and cardiovascular disease should be brought under health department control.

I quote two paragraphs from his report:

> We are now at about the same stage of medical knowledge regarding these chronic, non-communicable disorders at which our predecessors found themselves when joint efforts of private practice and public health began to be coordinated against the communicable diseases. We are afforded the opportunity to proceed humanely and cooperatively, as was done so successfully against the infectious diseases.
>
> The work of the private practitioner will be just as ethical and much more satisfying as all chronic disorders are promptly diagnosed and control efforts are made more effective. Our state is in a strategic position to lead the way in combatting chronic, noncommunicable disorders and accidents, just as private practitioners and the public health team joined hands to pioneer in communicable disease control.

The State of North Carolina maintains a large university clinic and hospital which accept patients of all classes. To the best of my knowledge, professional fees are then diverted to some degree into university funds. Thus, physicians are employed by the state, given the prestige of a connection with the university, and maintained in active competition with private practice.

Other groups

The national organization of the optometrists is asking for the passage of state laws which would limit refractions to licensed optometrists. Ophthalmologists would thereupon be required to secure such licenses.

There is reputed to be an active national organization of attorneys which undertakes to train its members in refuting medical testimony and in securing larger judgments in professional and other liability cases.

Supervision by hospitals

The American Hospital Association is adopting the concept that the hospital should be the purveyor of all health services in the community, and that all who render service, including physicians, should be salaried employees.

Local doctors believe that the Virginia Hospital Association is about to sponsor an act in the state legislature which would specifically authorize hospitals to employ all categories of physicians.

Until stopped by the Insurance Commissioner, a group of hospitals in New York forced the medical staffs to turn over to administrators the fees for services rendered industrial cases in their institutions.

It is becoming more and more prevalent for administrators to attempt to direct the treatment given to patients, including the ordering of special examinations, in order to increase hospital income.

A California hospital has demanded that staff members submit their private books for audit. The board of another hospital passed a regulation forbidding the medical staff to meet for even a social gathering unless the administrator was present.

I have been told directly by one of those involved that Jefferson Medical College recently dismissed four outstanding members of its teaching and hospital staff who refused to engage in financial practices which were unethical and in competition with private physicians.

There are hospitals in North Carolina who hire physician-employees so that the differences in fees collected and the salaries paid provide a source of income for the institutions.

One North Carolina hospital passed and attempted to enforce a regulation requiring that the medical staff turn over to the hospital from 10 per cent to 50 per cent of moneys earned in private practice within the institution.

Another North Carolina hospital tried to enforce a rule which would require physicians to purchase staff appointments at the rate of $500.00 each.

The Medical Care Commission

The Medical Care Commission was created with the blessing of the Medical Society of the State of North Carolina. We are all familiar with how the dispensing of construction funds and the use of the hospital licensing power have brought North Carolina hospitals under the dominance of the Commission to a remarkable degree. Now the Attorney General of the State of North Carolina has written an opinion concerning hospitals and the Medical Care Commission which I quote in part:

> It is my opinion that the Legislature authorizes hospitals licensed under the Act to prescribe the qualifications for those who treat the sick in the hospital and that as a part of its power the hospital may arrange with physicians and surgeons for the treatment at the hospital at fair and reasonable cost.

Need I say that the prospect of seeing the hospitals and the Medical Care Commission authorized to direct treatment given by, and to set the fees of physicians who care for patients in hospitals which are licensed by the Medical Care Commission is a frightening specter? The North Carolina Industrial Commission, commercial insurance companies, Blue Cross Plan and, yes, even Blue Shield use the power of the purse to prescribe to a considerable degree how, when, and what treatment shall be given to patients covered by their insurance policies. At this moment, we find ourselves "on the sidelines, listening to representatives of insurance companies,

bargaining with labor and management on fees, rates, coverage and services. The representatives of labor and management will insist on complete services for as little as possible. Labor will represent millions of people. Business will represent the greatest part of the money behind the plan. Representatives of the insurance companies will try to satisfy both and you will have nothing to say about it providing you will have agreed to participate."

Alternative to Appeasement

Beginning about 1935, the federal government, as later led by Mr. Oscar Ewing, undertook to nationalize and socialize medicine in the United States. In an effort to belittle the profession in the eyes of the public an organized campaign of vilification was begun. From then until now we have followed a plan of apology and appeasement. It has not worked for medicine any better than a similar plan has worked for the United States in world affairs.

We have behaved like a flock of stupid chickens under the shadow of the hawk. As individuals we have scurried for the nearest cover or crouched in trembling terror with little thought of defense and less care for the welfare of our fellows. In my opinion, the time for apologies has passed. We should use our minds and our hearts to determine what is best for those we serve and what is best for the medical profession, and then follow the prescribed course without regard for the inevitable obstacles which we will encounter.

We live in a society which is largely controlled by tightly organized groups, and I submit to you the hypothesis that in it only an organized group can survive. In the eyes of the public we are, and I use the ugly word, a union. We bear the excoriation and censure which is often heaped upon unions, but we have not had the advantages which come from union organization. I do not suggest that now or ever in the future we refuse to give our best professional services to all the sick who need us. I do suggest that we use the power of this organization to control the social and economic circumstances under which our services are rendered when a third party intervenes between physician and patient.

Many of you who are of my generation will, as I did, draw back in horror from this idea which will seem to you to be a prostitution of medical ideals. To you I say that after months of soul-searching I am convinced there is no other way. Many of you of a younger generation will resist this idea, because you will see in it factors which will disturb your present conditions of practice. To you I say that you must choose between submitting to a considerable degree of intramural discipline or else finding yourselves forever displaced to the level of the artisan. To all of you I say that if you have a better plan of procedure, your profession has never needed the fruits of your hearts and brains more than at this moment.

Careful consideration may convince you, as it has me, that we must capitalize on the one privilege which is generally conceded by the courts and which is thoroughly incorporated in our legal structure—namely, the right to use organizational membership to control the conditions of gainful employment.

I propose specifically that the Medical Society of the State of North Carolina create a commission of the five most level-headed, most astute, most dedicated, and most courageous men to be had to undertake the continuing task of planning an immediate and a long-range defensive and offensive program designed to preserve the private practice of medicine in North Carolina.

Conclusion

1. Our social and economic order is largely controlled by highly organized pressure groups and in it only such groups can hope to maintain their integrity. This situation is most unfortunate, but it cannot be changed. It must be accepted.

2. The Medical Society of the State of North Carolina must recognize and acknowledge the gravity of the situation.

3. As we stand idly by, our rights and privileges and our immunities are being bargained away by representatives of labor, industry, Government, insurance companies and

hospitals. I propose that the Medical Society of North Carolina assume the prerogative of doing its own negotiating with third party agencies.

4. "Freckles would make a very respectable coat of tan if they could only get together."

NEWS

The State Board of Health has organized a division of sanitary engineering, Dr. G. S. T. Peeples state health officer announced. This division formerly was a section under the division of administration.

Director of the new division will be W. T. Linton who also will continue his present duties as executive director of the State Water Pollution Control Authority.

This combination of service does not change the status of either the Water Pollution Control Authority or the activities of the executive committee of the State Board of Health, Doctor Peeples said. The change was made by agreement of the executive committee of the Board of Health, and the Water Pollution Control Authority.

C. W. Harrell, chief of sanitarians, was appointed as assistant director of the division of sanitary engineering. He will be succeeded by Charles E. Corley, chief of insect and rodent control, who also will serve as chief of sanitarians.

Section chiefs in the Division of Sanitary Engineering include the former acting chiefs, E. T. Ammons, retail food establishments; William Weston, milk and shellfish; C. G. Leonard, bottilng plants and frozen desserts; D. D. Taber, bedding inspection; and W. P. Boylston, wholesale food processing.

Addition of two members to the State Hospital's staff was announced by Supt. Dr. William S. Hall.

Dr. Boris Gertz, formerly of Florida, is a new member of the psychology staff.

Miss Ann W. Howe, Charleston, has assumed the new position of music therapist.

Dr. Z. Agardy, for the past two years house physician at St. Francis Hospital, Greenville, has become an assistant physician at the South Carolina State Hospital.

Dr. William C. Cantey of Columbia has been appointed surgical consultant by the Surgeon-General of the U. S. Army recently. He visited Panama and Puerto Rico army installations and the Navy hospital at Coco Solo.

Capt. J. O. Beasley, Jr., a native of Charleston, has relieved Maj. Roy P. Sandidge as surgeon in charge of the U. S. Public Health Service out-patient clinic.

Capt. Beasley, a senior assistant surgeon, is a 1955 graduate of the Medical College of South Carolina.

The out-patient clinic at the Custom House, Charleston, treats Coast Guard personnel, merchant seamen and other government workers.

Dr. Wallis Cone of Williston is the new chief-of-staff at the Barnwell County Hospital. His selection was made at a meeting of the doctors of the county at the hospital recently.

Dr. E. R. Wallace, III, of Barnwell is assistant chief-of-staff and Dr. L. W. Anderson of Williston is the new chief of surgery.

The Pee Dee Medical Association held a supper meeting at the Plaza in Bennettsville on Thursday evening, July 19. This annual affair has become by tradition and popular request a lobster supper.

During the evening Dr. John Hawk of Charleston spoke.

Dr. Joe E. Freed, State Hospital physician has become the president of the South Carolina State Employes Association.

Dr. John M. Preston of the State Board of Health was elected vice president.

Dr. Jack W. Rhodes has been called back into the Navy for a tour of active duty in the medical corps. A reserve lieutenant, he reported in July to the naval base at Portsmouth, Va., where he is on temporary duty pending further orders.

Dr. Rhodes came to Summerville to practice following service in the Navy in World War II. Two years ago he closed his office to take a post-graduate course in pediatrics at Roper Hospital in Charleston. He completed that work in June.

Dr. John S. McCutcheon, son of Mr. and Mrs. Schubert McCutcheon of Charlesworth Avenue, has become associated with Dr. Charles S. Kollar in the practice of Anesthesiology in Greenville.

Offices of the anesthesioloists are located at 423 Vardry Street in Greenville.

Dr. McCutcheon, a native of Durham, N. C., lived in Spartanburg for 25 years. He was educated in city schools and received his A. B. degree from Wofford College and his M. D. degree from the Medical College of South Carolina in 1953.

He served his internship at Greenville General Hospital and this month completed a two-year residency in anesthesiology at Columbia-Presbyterian Medical Center, New York City.

Dr. Don A. Richardson has returned to Seneca to practice medicine with Dr. Francis B. Adams. Dr. Richardson is a graduate of the Medical College of

South Carolina. He completed internship duties recently at the General Hospital in Indianapolis, Ind.

Dr. Julian Edgar Atkinson, who reported recently as an assistant physician at the South Carolina State Hospital, has been assigned to the women's service. Columbia Division. A native of Edgefield, Doctor Atkinson is an alumnus of The Citadel and received his medical degree from the Medical College of South Carolina. He has just completed a rotating internship at the Milwaukee County General Hospital, Milwaukee, Wis.

Dr. Ambrose Gonzales Hampton, Jr., Sumter County native, has begun the practice of internal medicine in Columbia, with offices at 1840 Hamton Street.

Entering the Citadel he was graduated in 1948. From 1944 to 1946, he served with the U. S. Infantry in Europe.

Dr. Hampton then entered the Duke University School of Medicine, from which he was graduated in 1952. He served his internship and residency at University of Virginia Hospital, then became instructor in medicine at Tulane University, and attending physician at Charity Hospital there. He held a clinical fellowship in cardiovascular disease. His service in New Orleans completed, he then came to Columbia to begin practice.

Dr. Ralph G. Ellis, Jr. has opened offices for the practice of medicine in the Health Center Building, Aynor, S. C.

He was graduated from Erskine College and the Medical College of South Carolina. His resident intern work was done at General Baptist in Atlanta, Ga.

Dr. John Y. O'Daniel has opened an office in Gaffney.

Dr. O'Daniel, who recently operated a private hospital at Ellijay, Georgia, is a graduate of Presbyterian College at Clinton and of the Medical College of South Carolina.

Dr. Donald G. Kilgore, a diplomate of the American Board of Pathology, is now associated with Dr. E. Arthur Dreskin in the practice of pathology, the publicity committee for the Greenville County Medical Society announced recently.

Their offices are located in Greenville General Hospital.

Dr. Sydney A. Garrett has announced that he will open his clinic at 102 Garvin Street, Pickens. This is the clinic which was formerly used by Dr. P. J. Moore, Jr., while he was in Pickens.

Dr. Garrett is a graduate of The Medical College of South Carolina. After completing his internship at Columbia last year Dr. Garrett moved to Pickens.

Dr. James Carson, who a few years back practiced medicine in Walhalla for some time, has now returned to Oconee county and will open an office in Seneca. Dr. Carson, who pointed out he is a grandson of Indian Scout Kit Carson, also recalls he knew well such characters as Annie Oakley and Buffalo Bill when he was on the medical staff of the old Barnum and Bailey Circus.

Dr. Mary Elizabeth Blanchard, formerly of Bishopville has begun her practice at the office of Dr. Robert B. Bultman in Sumter.

She is a graduate of Winthrop College, received her medical training at the Medical College of South Carolina, interned at Temple University Hospital, and has just completed her residency there.

Dr. Lee W. Milford, Clemson College physician for 30 years and eight months, retired August 31 as director of the student health service, an operation that grew from an eight-bed sick bay to a 50-bed campus hospital during his tenure. He will return to private practice, go fishing on a regular basis and spend more time with an expanding family.

Dr. Milford, a 1917 graduate of Emory University, came to Clemson Jan. 1, 1926, inheriting a part of the present building with accommodations for no more than 10 patients. Equipment was inadequate. One of his first moves was the purchase of an x-ray machine. "I wouldn't try to practice medicine without it," he said.

Today the enlarged Clemson hospital is comfortably equipped with modern conveniences and can expertly attend 50 patients at one time. There are times, however, when the building is highly taxed for space. "Epidemics have been our greatest fear," Dr. Milford states. One of the worst, several years ago, sent 263 students to bed simultaneously with influenza.

A former chairman of the athletic council at Clemson, and a faculty representative in the Southern Conference for 26 years, he was a leader in the organization of the yet-infant Atlantic Coast Conference and one of four to write the conference constitution and by-laws. He served three terms as president of the Southern Conference and was instrumental in organizing a booking office of conference officials.

The Annual Meeting of The South Carolina Pediatric Society was held in Columbia on September 10 and 11. Officers elected last May took their chairs: Dr. William R. DeLoache of Greenville, President; Dr. Fred F. Adams, Jr., of Spartanburg, Vice-President; and Dr. C. Guy Castles of Columbia, Secretary-Treasurer.

At the same time there was held a meeting of the South Carolina Chapter of The American Academy of

Pediatrics. Dr. Walter Hart, Florence, was elected State Chairman, and Dr. Clarence Lyles, Spartanburg, was elected Secretary-Treasurer.

ANNOUNCEMENTS

ARE YOU MAKING PLANS NOW TO ATTEND THE A.M.A. CLINICAL SESSION IN SEATTLE, NOVEMBER 27-30?

The American College of Obstetricians and Gynecologists

Chicago Meeting, November 7-9, 1956

Round Table discussions and Breakfast Conferences will again highlight the meetings of the American College of Obstetricians and Gynecologists at the Fifth Annual Clinical meeting to be held at The Palmer House, Chicago, Illinois, on November 7-9, 1956. Officers for South Carolina are: Chairman, J. Decherd Guess of Greenville and Vice-Chairman, Arthur L. Rivers of Charleston.

The National Foundation for Infantile Paralysis announces that postdoctoral fellowships are available for full time study in preparation for careers in either research or academic medicine, or in the clinical fields of psychiatry; rehabilitation; orthopedics; the management of poliomyelitis and preventive medicine.

Financial support of the Fellow varies and compensation to the institution is arranged according to the program undertaken. For a full academic program, tuition and fees are paid; for other programs, a sum not to exceed $1,250 per year including tuition.

All awards are made upon recommendation of the appropriate National Foundation Fellowship Committee.

Financial benefits, in addition to the compensation to the institution, vary from $3,600 to $6,000 a year. Under unusual circumstances, higher stipends may be permitted. Transportation not to exceed $600 may be paid if foreign study is approved.

The National Foundation has authorized the expenditure of $23,500,000 since 1938 for scholarships and fellowships, and for aid to educational institutions, professional organizations, and related activities.

For further information write to:

Division of Professional Education
The National Foundation for Infantile Paralysis
120 Broadway, New York 5, New York

EXAMINATIONS FOR MEDICAL OFFICERS UNITED STATES PUBLIC HEALTH SERVICE

A competitive examination for appointment of Medical Officers to the Regular Corps of the United States Public Health Service will be held in various places throughout the country on November 27, 28, 29, and 30, 1956.

Appointments provide opportunities for careers in clinical medicine, research, and public health. They will be made in the ranks of Assistant and Senior Assistant, equivalent to Navy ranks of Lieutenant (j.g.) and Lieutenant.

Entrance pay for both grades with dependents is $7,498 per year and other benefits.

The Sister Elizabeth Kenny Foundation announces a program of post doctoral scholarships to promote work in the field of neuromuscular diseases. These scholarships are designed for scientists at or near the end of their fellowship training in either basic or clinical fields concerned with the broad problem of the neuromuscular diseases.

The Kenny Foundation Scholars will be appointed annually. Each grant will provide a stipend for a five year period at the rate of $5,000.00 to $7,000.00 a year depending upon the Scholar's qualifications. Candidates from medical schools in the United States and Canada will be eligible.

Inquiries regarding details of the program should be addressed to: Dr. E. J. Huenekens, Medical Director, Sister Elizabeth Kenny Foundation, 2400 Foshay Tower, Minneapolis 2, Minnesota.

The semi-annual meeting of the Industrial Medical Society of South Carolina will be held Thursday, November 8, 1956 at the Jefferson Hotel, Columbia, South Carolina beginning at 2:00 P. M.

This meeting is held annually in connection with the Safety Conference sponsored by the South Carolina Industrial Commission.

All members of the South Carolina Medical Association are cordially invited to attend.

The program is a diversified one dealing with various phases of industrial medicine and surgery.

An Adjuster will discuss the reporting of accidents. Two Attorneys, one usually representing the defendant and one usually representing the plaintiff, will discuss the Doctor on the Witness Stand. The medical and surgical portion of the program will deal with Industrial Dermatoses, which is becoming more of a problem, and hand injuries, which comprises so large a part of industrial accidents.

The program follows:

2:00 P.M. Coordination; Employer-Doctor-Carrier—Cliff Anderson, American Mutual Liability Insurance Company

2:30 P.M. Simplification & Clarification of Medical Testimony, Thomas B. Whaley, Attorney

3:00 P.M. The Responsibilities of a Plaintiff's Lawyer to His Client—Henry H. Edens, Attorney

3:30 P.M. Hand Injuries—Dr. Robert F. Hagerty, Surgeon

4:00 P.M. Industrial Dermatoses—Dr. J. Richard Allison, Jr., Dermatologist & Allergist

The officers of the Association are:

Dr. Frank C. Owens, Columbia, S. C., President

Dr. John T. Assey, Georgetown, S. C., Vice President

Dr. Charles Hanna, Spartanburg, S. C., Secretary

Dr. Frank Stalling, Greenville, S. C., Treasurer

Dr. Wm. Edwards, Greenville, S. C., Exec. Committee

Dr. George Orvin, Charleston, S. C., Exec. Committee

MEDICAL COLLEGE OF SOUTH CAROLINA

TENTATIVE PROGRAM FOR POST-GRADUATE SEMINAR & FOUNDERS' DAY—1956

Tuesday, October 30

8:30- 9:00 Registration and Greetings

9:00-10:00 Modern Management of Hypertension C. Ford Rivers, M. D.

10:00-11:00 Present Day Management of Asthma—Kelly T. McKee, M. D.

11:00-12:00 Recognition and Management of Cerebral Vascular Accidents—Rhett Talbert, M. D.

12:00-1:00 Management of Diabetes—John F. Buse, M. D.

1:00- 2:00 Lunch

2:30- 3:00 Erythroblastosis Foetalis: Treatment by Exchange Transfusions: Indications For and Results—B. Owen Ravenel, M. D.

3:00- 3:30 The Management of Children with Hearing and Speech Defects from Point of View of Practicing Pediatrician—John C. Bonner, M. D.

3:30- 4:00 Subdural Effusion—A Common Complication of Purulent Meningitis in Young Children—Walton L. Ector, M. D.

4:00- 4:30 Trends in Routine Immunization—Abram Berry, M. D.

4:30- 5:00 Antibiotics in Pediatric Practice—Joseph I. Waring, M. D.

5:00- 5:30 Management of The Premature Infant—William B. Gamble, Jr., M. D.

Wednesday, October 31

9:00-10:00 Practical Value of Audiometry—Richard W. Hanckel, M. D.

10:00-11:00 Pitfalls In The Treatment of Fractures—John A. Siegling, M. D.

11:00-12:00 Acute Abdominal Injuries—Frederick E. Kredel, M. D.

12:00- 1:00 Gall Bladder Disease—R. Randolph Bradham, M. D.

1:00- 2:30 Lunch

2:30- 4:00 Panel: *Obstetrics*: Moderator, Lawrence L. Hester, Jr., M. D.

Management 3rd Trimester Bleeding—Thomas G. Herbert, M. D.

Current Trends in Treatment of Abortion—John R. Sosnowski, M. D.

Premature Rupture of Membranes: Prognosis and Therapy—Watson C. Finger, M. D.

Abruptio Placentae: Treatment—Julian A. Salley, M. D.

4:00- 5:30 Panel: *Gynecology*: Moderator, Lawrence L. Hester, Jr., M. D.

Pelvic Relaxations: Significance and Treatment—James M. Wilson, M. D.

Culdoscopy: Experience in 50 Examinations—Edward J. Dennis, M. D.

Surgical Treatment in Carcinoma of the Cervix—Lawrence L. Hester, Jr., M. D.

7:00- 9:00 Round-Up Conference—Buffet Dinner

FOUNDERS' DAY, THURSDAY, November 1, 1956

8:30- 9:00 Registration and Greetings

9:00-10:00 Recent Advances in the Treatment of Carcinoma of Breast—David M. Hume, M. D., Professor of Surgery, Medical College of Virginia

10:00-11:00 Diagnosis and Treatment of Hiatal Esophageal Hernia—Porter Paisley Vinson, M. D., Professor of Medicine, Medical College of Virginia

11:00-11:30 Coffee Break: Alumni Associaiton, School of Nursing

11:30-12:30 Pruritus Vulvae—Walter L. Thomas, M. D., Professor of Obstetrics and Gynecology, School of Medicine, Duke University

12:30- 1:00 Presentation of Plaque honoring

WILLIAM L. PRESSLY, M.D.

by

The Reverend Dr. Robert C. Grier, Pastor

Associate Reform Presbyterian Church

Greenville, S. C.

Past President of Erskine College

1:00- 2:30 *Cineclinics*:

"Peripheral Neuritis and Severe Paresis Complicating Nasopharyngeal Diphtheria"—John T. Paul, Jr., M. D.

"Acute Abdominal Injuries"—Frederick E. Kredel, M. D.

"Cardio-Vascular Surgery"—J. Manly Stallworth, M. D.

"Clinics on Deafness"—Richard W. Hanckel, Jr., M. D.

WOMAN'S AUXILIARY
SOUTH CAROLINA MEDICAL ASSOCIATION

President: Mrs. E. Gordon Able, Newberry, S. C. **Bulletin Secretary: Mrs. Ritchie Belser, Charleston, S. C.**

OUTLINE OF OBJECTIVES, 1956-1957

1. AMERICAN MEDICAL EDUCATION FOUNDATION: To promote the interest of all the members in medical education and to urge each Auxiliary and each member to participate actively in financial support of the AMEF. To strive for a second AMEF Award of Merit.
2. BULLETIN, NATIONAL: Each member subscribe to this invaluable one dollar a year tool and read it to be better informed.
3. CIVIL DEFENSE: To prepare ourselves to care for our family and neighbors in case of emergency. To sponsor first aid and home nursing courses. To concern ourselves with the Civil Defense set up and offer to serve when needed.
4. CONVENTION: To greet old friends and make new ones. To review and appraise the work of the year and launch the new year's work. To be of every possible assistance to the chairmen.
5. DOCTORS DAY: Celebrated on or about March 30 to pay the tribute to our doctor husbands which we feel they so richly deserve.
6. FINANCE: To serve as a budget committee and plan wisely on the expenditure of funds, and to act as controller in maintaining the provisions of the budget.
7. HISTORY: To record the achievements and progress of the Auxiliary. To collect and preserve the biographies of deceased members of the Medical Association. To file and keep safe the historical records and other important materials in the Medical College library.
8. JANE TODD CRAWFORD MEMORIAL FUND AND NURSE RECRUITMENT: Advise nursing schools and the public of the availability of Loan Fund for student and graduate nurses. Intensify our Nurse Recruitment program through Future Nurses Clubs. To assist chairman with Future Nurses Club Rally. Institute measures necessary to enlarge this recruitment program to include allied fields, such as medical technology.
9. LEGISLATION: To assume our share of responsibility for safeguarding the ideals of American Medicine by keeping in touch with the Medical Association and being ready to assist under its guidance (1) to defeat detrimental measures and (2) to support good legislation.
10. MENTAL HEALTH: To work with county and state Mental Health Organizations especially during Mental Health Week in May. We hope each Auxiliary will devote a program to this important subject.
11. ORGANIZATION & MEMBERSHIP: Get the green light by securing the approval of the County and District Medical Societies for the organization of Auxiliaries where none exist. To proceed to organize where sufficient number makes it feasible, where not to secure members at large. To stand at least 1,000 members strong at the side of the South Carolina Medical Association by March 1, 1957.
12. PROGRAM: To make programs short, varied and stimulating. To incorporate group discussions proved successful at first round table conference. Under guidance of local advisory council, promote the health projects most suited to the needs of each community.
13. PUBLICITY & PRESS: To interpret the Auxiliary and its achievements (1) through the State Bulletin and the Auxiliary space in the Journal of the South Carolina Medical Association, both media so generously provided by the Association (2) through newspaper, radio and television.
14. PUBLIC RELATIONS: To help bring about greater understanding of the medical profession by the public. Catalogue members who hold key positions in other organizations for a list of Who's Who in the Auxiliary.
15. SAFETY: To work diligently toward prevention of accidents and injuries with special emphasis on traffic and home safety.
16. STUDENT LOAN FUND: To be maintained for the use of deserving sons and daughters of physicians who are or have been members in good standing of the South Carolina Medical Association.
17. TODAY'S HEALTH: To promote wide circulation of this publication of the American Medical Association, a most potent means of health education for the general public.

Members of the executive board of the Woman's Auxiliary to the South Carolina Medical Association met in September and heard Dr. William H. Prioleau, of Charleston, president of the South Carolina Medical Association, as their guest speaker. He spoke on the problems that confront the medical profession today.

Also an honor guest at the luncheon was Dr. D. L. Smith of Spartanburg, president-elect of the Medical Association, and Mrs. Smith.

Mrs. E. Gordon Able of Newberry, president of the Woman's Auxiliary, presided at the luncheon as

A RESEARCH MILESTONE

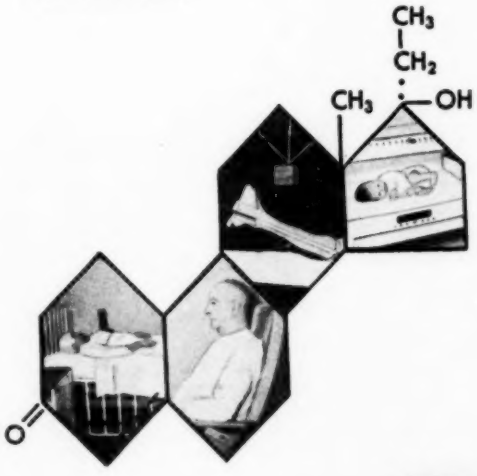
Nilevar*

(BRAND OF NORETHANDROLONE)

Searle's New and Practical Steroid Specifically for Protein Anabolism–

It has long been recognized that a substance which would promote protein anabolism would be of inestimable value in therapy. The androgens have this property, but unfortunately they also exert actions on secondary sex characteristics. These effects are commonly undesirable in therapeutic programs.

THE FIRST STEROID WITH ANABOLIC SPECIFICITY—Nilevar, the newest Searle Research development, therefore, meets a long desired clinical need because Nilevar presents the first steroid primarily anabolic for protein synthesis. Moreover, Nilevar is without prominent androgenic effects (only about one-sixteenth of that exerted by the androgens).



OBJECTIVE AND SUBJECTIVE RESPONSE—Orally effective, Nilevar therapy is characterized by retention of nitrogen, potassium, phosphorus and other electrolytes in ratios indicative of protein anabolism. Moreover, subjectively the patient observes an increase in appetite and sense of well-being.

WELL TOLERATED—Nilevar has an extremely low toxicity. Laboratory animals fail to show toxic effects after six months of continuous administration of high dosages. Nilevar should not be administered to patients with prostatic carcinoma. Nausea or edema may be encountered infrequently. Slight androgenicity may be evidenced on high dosage or in particularly responsive individuals.

MAJOR INDICATIONS—Preparation for and recovery from surgery; supportive treatment of serious illnesses (pneumonia, poliomyelitis, carcinomatosis, tuberculosis); recovery from severe trauma and burns; decubitus ulcers; care of premature infants.

DOSAGE—The daily *adult* dose is three to five Nilevar tablets (30 to 50 mg.) but up to 100 mg. may be administered. For *children* the average daily dose is 1 to 1.5 mg. per kilogram of body weight; individual dosages depend on need and response to therapy.

SUPPLY—Nilevar is available in uncoated, unscored tablets of 10 mg. G. D. Searle & Co., Research in the Service of Medicine.

*Trademark of G. D. Searle & Co.

SEARLE

well as at the business session which preceded the luncheon.

She heard reports from her officer staff, including Mrs. K. M. Lippert, first vice president, of Columbia; Mrs. Wallis D. Cone of Sumter, second vice president; Mrs. Wayne Reeser of Conway, third vice president; Mrs. John Martin of Anderson, fourth vice president; Mrs. Lawson Stoneburner of Greenville, recording secretary; Mrs. S. Edward Izard, Charleston, historian; Mrs. George Orvin, Charleston, treasurer; Mrs. R. E. Livingston, Newberry, corresponding secretary; Mrs. T. A. Pitts of Columbia, parliamentarian.

Reports from chairmen of standing and special committees were heard from Mrs. E. H. Thomason of Olanta, American Medical Education Foundation, who stated that the South Carolina Auxiliary received an award of merit at the national convention in June for being among the top 10 contributors per capita.

Reports were also made by Mrs. John M. Brewer of Kershaw, Mrs. J. A. Sasser of Conway, Mrs. Von Long of Newberry, Mrs. Ripon La Roche of Camden, Mrs. Ritchie Beltser of Charleston, Mrs. George Dawson of Florence, Mrs. Hugh W. Mole of Denmark, Mrs. George W. Smith of Columbia, Mrs. John T. Cuttino of Charleston, Mrs. B. M. Montgomery of Newberry, Mrs. Fritz N. Johnson of Mullins, Mrs. David Adcock of Columbia, Mrs. W. H. Williams of Rock Hill, and Mrs. Kenneth Lawrence of Florence.

Reports from county medical auxiliaries were given by their presidents, Mrs. Ned Camp, Anderson; Mrs. Vince Moseley, Charleston; Mrs. W. H. Powe, Jr., Greenville; Mrs. Kemper Lake, Whitmire; Mrs. Jay E. Hodge, Cheraw; Mrs. J. A. White, Easley; Mrs. L. C. Davis, Columbia; Mrs. Wilson Greene, Sumter; and Mrs. Alton J. Brown for Mrs. Thomas A. Murrah, of Rock Hill.

A nominating committee was elected, including Mrs. C. R. May of Bennettsville, chairman, Mrs. Wayne Reeser of Conway, and Mrs. John T. Cuttino of Charleston.

Mrs. Able gave recognition to Mrs. Kemper Lake as president of the Newberry County Auxiliary, which was hostess for the board meeting and luncheon. It has only 13 members.

Past presidents attending the meeting were Mrs. H. L. Timmons, Columbia, Mrs. R. M. Pollitzer, Greenville, Mrs. T. A. Pitts, Columbia, Mrs. D. F. Adcock, Columbia, Mrs. Kirby D. Shealy, Columbia, and Mrs. C. R. May, Bennettsville, immediate past president.

DEATH

DR. JAMES AUSTIN BALL

Dr. James Austin Ball, 81, of Charleston, professor emeritus of dermatology and medicine at the Medical College of South Carolina, died at his residence after a long illness.

Dr. Ball had been engaged in the practice of medicine in Charleston from 1904 until his retirement in 1935. He was a member of the faculty of the Medical College during the same time.

A native of Cordesville, Dr. Ball was born June 19, 1875. He attended Porter Academy in Charleston and was a graduate of the College of Charleston, class of 1897. He graduated with first honors from the Medical College of South Carolina in 1900.

He interned at Roper Hospital for several months after his graduation and then accepted an appointment at the Willard Parker Hospital in New York City. Later he served as a resident physician at the Hospital for Contagious Diseases, St. Mark's Hospital and the Kingston Avenue Hospital, all in New York, before returning to Charleston in 1904.

He became engaged in the general practice of medicine and as a consultant in dermatology shortly after his return. He also joined the faculty of the Medical College at the same time.

He remained active in his college work and medical practice until 1935, when he suffered a severe illness and retired. He was named professor emeritus of dermatology and medicine by the Medical College shortly afterwards.

Dr. Ball was a member of the Medical Society of South Carolina, South Carolina Medical Association and the American Medical Association. He was also a member of the St. Cecilia Society and of St. Philip's Protestant Episcopal Church.

The "First Meeting" of members of the United States Committee of The World Medical Association, held in Chicago, June 13, was an outstanding success. And, if the clearly expressed wishes of the more than 125 members who participated in this initial conclave are carried out, this meeting should prove portentous for the future of the U. S. Committee and its service to W.M.A.

A feature of the meeting was the introduction of two Committee members, Dr. Marvin Olson of Wittenberg, Wisconsin, and Dr. Edward P. Flood of New York City, who recounted their experiences in attending General Assemblies of W.M.A., and described their impressions of the values of W.M.A. both to the medical profession as a whole and to the individual physician who takes part in W.M.A. affairs through membership in the U. S. Committee.

Dr. Olson emphasized three areas in which he believes W.M.A. is vital to the future of American medicine: 1) as the voice and guardian of professional freedom for the doctor; 2) as the promoter of higher standards of medical education and service in all member nations; and 3) as a practical contributor to the cause of world peace. "Through the W.M.A.", Dr. Olson said, "the universal language of medicine can be made more articulate in the cause of world peace."